Model Tests from the School Book

### Model Test » 1

1 **Choose the correct answer:**

1) $(-1)^8 + (-1)^9 =$ .... (0 or –1 or 1 or –2)

2) The image of the point (–3,4) by translation $(x, y-4)$ is ....

$((-3,0)$ or $(-7,4)$ or $(-3,8)$ or $(-1,4))$

3) {0} .... $\mathbb{N}$ ($\in$ or $\notin$ or $\subset$ or $\not\subset$)

4) When tossing a die once and observing the upper face, then the probability of getting
a number greater than 6 = ... ($\varnothing$ or 0 or $\frac{1}{6}$ or $\frac{1}{3}$)

2 **Complete the following:**

1) $\left|\frac{5-11}{3}\right|$ .... $\mathbb{Z}$ by using ($\in$ or $\notin$ or $\subset$ or $\not\subset$)

2) If $x + 6 = 2$ where $x \in \mathbb{Z}$, then $x =$ ....

3) in the opposite figure ABCD is a rectangle, then the area
of $\triangle$ ABC = ... cm^2.

4) A box contains 5 white balls, 3 blue balls and 8 red balls. All of the balls are identical. If a ball is
chosen randomly when you close eyes, then the probability that the chosen ball is red = ...
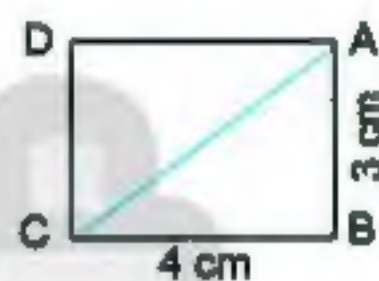
3 **a)** Find the result: $(4 \times 3^2) + 3^2 - (7 \times 3)$ ....

b) Find the solution set of the inequality: $x - 2 \geq 3$ where $x \in \mathbb{Z}$ ....

4 **a)** A cuboid box with a square base of side length 10 cm and its height is 7 cm.
Find the lateral surface area of the box.

b) The circumference of a circle is 88 cm, find its area.

5 **a)** Find the solution set of the equation $3x + 9 = 3$ where $x \in \mathbb{Z}$.

b) The following table shows the percentage of the production of a factory of house electric sets.

Types of the sets	Washing machine	Oven	Heater	Mixer
Percentage of production	30%	40%	15%	15%

Represent these data using the circular sectors.

Model Test >> 2

1 Choose the correct answer:

1) If $2x = 6$, then $x \in$ .... ($\mathbb{N}$ or $\emptyset$ or $\mathbb{Z}^+$ or $\mathbb{Z}^-$)

2) The circumference of the circle = ... $\times \pi$ (r or $2r$ or r^2 or $r+2$)

3) A die is tossed once, then the probability of getting the number 5 = ... (0 or $\frac{1}{6}$ or $\frac{5}{6}$ or 1)

4) The number which satisfies the inequality $x > -2$ is .... (-1 or -2 or -3 or -4)

2 Complete the following:

1) $\frac{2^3 \times 2^5}{2^2} = $ ....

2) The set of the counting numbers ($\mathbb{C}$) .... $\mathbb{N}$

3) The total surface area of a cube is 150 cm², then its side length is .... cm.

4) The result of a mathematics test of October for 6th grade in a school is recorded in the following table:

Excellent	Very good	Good	Weak
8	18	16	6

Then, the probability that a student obtains good = ...

3

1) Find the value of $(6 \times -5) - ((2 \times 3) + 3)$

2) Find the solution set of the inequality $x - 2 \geq 3$ where $x \in \mathbb{Z}$, then represent the solution on the number line.

4

a) Find the solution set of the equation $2x + 9 = 5$ where, $x \in \mathbb{Z}$.

b) In the opposite figure ABCD is a rectangle, its length is 8 cm and its width is 7 cm. Calculate the area of the shaded part.
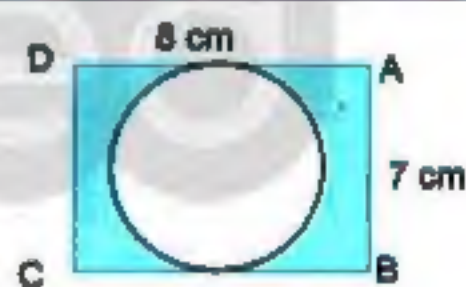
5

a) On the coordinate plane, determine the following points A (2,3), B (4,3) and C (4,7) then find:

1) The length of $\overline{BC}$ = ... length units.

2) The image of $\triangle$ ABC by translation (0 , –4).

b) The following table shows the percentage of a number of students who participated in school activities.

Activity	Cultural	Sports	Social	Arts
Percentage of students	5%	45%	15%	35%

Represent these previous data by the circular sectors.

Worksheets & Exams

Model Test 3

(for students with special needs)

1 *Complete the following:*

1) $|3| = \dots$

2) The probability of the impossible event = $\dots$

3) If $x + 2 = 3$, $x \in \mathbb{N}$, then $x = \dots$

4) The perimeter of the base of a cuboid is 10 cm, its height is 4 cm. Then its lateral

area = $\dots$ cm².

2 *Choose the correct answer:*

1) $2^5 \times 2^2 = \dots$ $\qquad$ (2^7 or 4^7 or 1)

2) The surface area of a circle = $\pi \times \dots$ $\qquad$ (r or r^2 or $2r$)

3) $\mathbb{Z}^+ \cup \{0\} = \dots$ $\qquad$ ($\mathbb{Z}^-$ or $\mathbb{N}$ or $\mathbb{Z}$)

4) When tossing a die once, then probability of getting an odd number = $\dots$ ($\frac{1}{6}$ or $\frac{1}{3}$ or $\frac{1}{2}$)

3 *Put (✓) true or (✗) false:*

1) $|-5| + 5 = 10$ $\qquad$ ( )

2) If $3x = 9$, then $x = -3$ $\qquad$ ( )

3) The probability of the sure event = zero. $\qquad$ ( )

4) In the following figure the distance between points A and B = 2 units. $\qquad$ ( )

كتاب **Gem** موقع ذاكرولي التعليمي الصف السادس الابتدائي
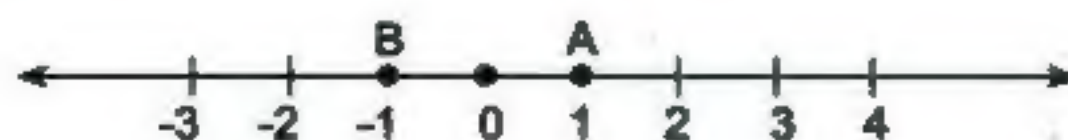
4 **Join from column (A) to column (B):**

	A	B
1	The sum of the measures of the angles of the sectors about the centre of the circle = ...	$\in$
2	2 .... $\mathbb{Z}^+$	$360°$
3	The solution set of the inequality $x + 2 < 5, x \in \mathbb{N}$, is ----------	$(4 , 4)$
4	The image of the point $(3 , 2)$ by translation $(1 , 2)$ is ----------	$\{0 , 1 , 2\}$

5 **Complete the following:**

a) The length of the edges of a cube is 4 cm. Calculate its total area and lateral area:

The total area = 6 × ....   The lateral area = 4 × ....

b) Find the result: $\dfrac{2^9 \times (-2)^4}{2^6} = \dfrac{2^{---+---}}{2^6} = 2^{----} = $ ....

كتاب **Gem**   موقع ذاكرولى التعليمى   الصف السادس الابتدائي

24 Examinations from Different Governorates 2018/2019

(Note: Show your steps at the 3rd question in each exam.)

(1)   **Cairo - EL-Sahel Educational Zone**

1 Choose the correct answer:

1) $\mathbb{Z}^- \cap \mathbb{N} = $ ....   ($\mathbb{Z}$ or $\mathbb{N}$ or $\mathbb{Z}^-$ or $\varnothing$)

2) The additive inverse of $(-3)^2$ is ....   ($(3)^2$ or $(-2)^3$ or $-(3)^2$ or $\frac{1}{9}$)

3) The equation $x^2 + 1 = 3$ is of the .... degree.   (first or second or third or fourth)

4) If a fair die is thrown once, then the probability of getting the number 5 equals ....   ($\frac{5}{6}$ or Zero or $\frac{1}{6}$ or 1)

5) If $a = 2$, $b = -4$, then $3ab = $ ....   (-10 or -24 or 2 or -12)

6) If A (2 , 3) and B (6 , 3), then the length of $\overline{AB}$ is .... length units.   (2 or 3 or 4 or 5)

7) A circle of diameter length 10 cm, its area = ... π cm^2.   (100 or 50 or 25 or 5)

8) If $x = -2$, $y = |-3|$, then $x + y = $ ....   (-5 or 1 or 5 or 6)

9) The image of the point .... by translation $(x - 3 , y + 4)$ is $(-5 , -3)$.   (($-2 , -7$) or ($-2 , 7$) or ($-8 , 7$) or ($-8 , 15$))

10) $2^3 \times 2^2 = $ ....   (4^6 or 4^5 or 2^6 or 2^5)

11) If the probability of success of a student is 0.8, then the probability of his failure is ....   (80% or 0.4 or 1 or 0.2)

12) If the set of substitution is $\{1 , 2 , 3 , 4\}$, then the solution set of the equation $x + 6 = 10$ is ....   ($\{1\}$ or $\{2\}$ or $\{3\}$ or $\{4\}$)

2 Complete each of the following:

13) A cube, the area of its face = 9 cm^2, then its total surface area = ... cm^2

14) $\mathbb{Z} - \mathbb{Z}^+ = $ ....

15) The image of the point $(-2 , 5)$ by translation $(1 , -3)$ is ....

Gem كتاب   موقع ذاكرولي التعليمي   الصف السادس الابتدائي

16) If $2x = 6$ then $6x =$ ....

17) The sum of measures of the angles of the sectors around the centre of the circle
= .... °.

18) If the perimeter of the base of a cuboid is 10 cm, its height is 5 cm, then its lateral
area = ... cm^2.

19) If $-x > 3$, then $x <$ ....

20) The total area of a cuboid is 132 cm^2 and its lateral area is 112 cm^2, then
the area of its base is .... cm^2.

---

3 **Answer the following questions:**

21) **Find** the solution set of the equation $3x - 7 = 11$, where $x \in \mathbb{Z}$.

22) A circle of diameter length 14 cm is divided into 7 equal circular sectors, **calculate**
the surface area of one sector where $\left(\pi = \frac{22}{7}\right)$.

23) **Find** the solution set of the inequality $x - 2 \leq 3$ where $x \in \mathbb{N}$

24) If the perimeter of the base of a cube is 28 cm:

   a) **Calculate** its lateral area.

   b) **Calculate** its total surface area.

25) The following table shows the percentages of a number of students participating in
the school activities.

Activities	Arts	Sports	Computer
Percentages	25%	40%	35%

Represent these data by circular sectors (pie chart).

2   *Cairo - Heliopolis Directorate - St.Joseph's School*

1 *Choose the correct answer:*

1) $\mathbb{Z} - \mathbb{Z}$ = ...   ($\mathbb{Z}$ or $\mathbb{Z}^+$ or {0} or $\mathbb{N}$)

2) $2^3 + 1^3$ = ...   (3^3 or 3^6 or 3^2 or 3^9)

3) The image of the point (–3 , –3) by translation 3 units in the positive direction of y-axis
   is ....   ((0 , 0) or (0 , –3) or (–3 , 0) or (–3 , 3))

4) The measure of a angle of the sector which represents third of the circle
   = ... °   (30 or 60 or 120 or 180)

5) The number that satisfies the inequality $x > -2$ is ....   (–1 or –2 or –3 or –4)

6) If a < b, then –3a .... –3b   (< or > or = or ≤)

7) When tossing a fair die once, then the probability of getting the number 3
   is ....   ($\frac{1}{2}$ or $\frac{1}{3}$ or $\frac{1}{6}$ or 1)

8) If $2x + |-3| = 1$, then x = ...   (2 or –1 or –4 or 8)

9) The lateral area of the cube of edge length 10 cm is .... cm².   (40 or 400 or 600 or 1000)

10) The additive inverse of $(-1)^6$ is ....   ($(1)^6$ or $(-1)^7$ or $(-1)^8$ or $(-1)^0$)

11) $|-4| + (-2)$ .... $\mathbb{N}$ (∈ or ∉ or ⊂ or ⊄)

12) The circumference of the circle = ...   (πr or $2\pi r$ or πr^2 or $2\pi r^2$)

2 *Complete the following:*

13) The lateral area of the cuboid = the perimeter of base × ....

14) The greatest negative integer is ....

15) The probability of the impossible event = ...

16) $\dfrac{(-3)^7 \times (-3)^2}{(-3)^6} = (-3)^x$, then x = ...

17) If A (–3 , 2) and B (–3 , – 4), then the length of $\overline{AB}$ = ... length unit(s).

18) $3 \times (-5) = (-5) \times 3$ is called .... property

19) $\{x : x \in \mathbb{Z}, -2 < x \leq 1\}$ = ... in listing method.

20) The image of the point (0 , –2) by translation (x – 3, y + 2) is ....

3 **Answer the following questions:**

21) Find the solution set in $\mathbb{Z}$ of the equation: $2x + 11 = 3$

....

....

22) Use the properties of addition and multiplication to find the result of:

$37 \times 17 + 37 \times (-17)$

....

....

23) A carpet in the shape of a circle of radius length 3.5 m. If the price of one metre square of this carpet is 100 pounds, then find the price of the whole carpet. $\left(\pi \simeq \frac{22}{7}\right)$

....

....

24) Find the total area of a cuboid box of dimensions 3 cm, 2 cm and 6 cm.

....

....

25) The following table shows the percentages of a number of students participating in some favourite school activities:

Activities	Sports	Reading	Music
Percentages	25%	35%	40%

Represent these data by a pie chart.

3 Cairo - El-Sayeda Aisha - Rod El-Farag Educational Zone

1 *Choose the correct answer:*

1) -5 .... $\mathbb{Z}^{+}$ ($\in$ or $\notin$ or $\subset$ or $\not\subset$)

2) If $2x = 8$, then $x + 1 = $ .... (4 or 2 or 16 or 5)

3) A circle of diameter 8 cm, its area = ... π cm^2 (4 or 8 or 16 or 64)

4) If $a = -3$, $b = 2$, then $(a)^b = $ .... (-6 or 9 or -9 or -8)

5) $(-1)^{13} + (-1)^{10} = $ .... (0 or 2 or 1 or -2)

6) The number that satisfies the inequality $x > -4$ is .... (-5 or -6 or -4 or -3)

7) If the area of one face of a cube is 9 cm^2, then its total area = ... cm^2.

(12 or 27 or 36 or 54)

8) The probability of the impossible event is .... (0 or 1 or -1 or 2)

9) If A (2 , 7), B (2 , 3), then the length of $\overline{AB} = $ .... units. (3 or 4 or 5 or 7)

10) $9^7 + 9^5 = $ .... (9^{14} or 9^2 or 9^{zero} or 9^{35})

11) The equation $3x^3 - 6 = 14$ is of the .... degree. (first or second or third or fourth)

12) The measure of the angle of the circular sector which represents $\frac{1}{4}$ from the area of a circle is .... (30° or 60° or 90° or 45°)

2 *Complete the following:*

13) The image of the point $(-1 , 4)$ by translation $(x + 1, y -3)$ is ....

14) $\mathbb{Z}^{+} \cap \mathbb{Z}^{-} = $ ....

15) A fair die is thrown once, then the probability of getting the number 5 is ....

16) The lateral area of the cuboid = perimeter of base X ....

17) $\frac{(-2)^7 \times (-2)^5}{-2^{10}} = $ ....

18) The sum edge lengths of cube is 48 cm, then its lateral area = ... cm^2.

19) If $x = -2$, $y = | 4 |$, then $xy = $ ....

20) The cuboid of lateral area 120 cm^2 and perimeter base 20 cm,

its height = ... cm.

Final Examinations from Different Governorates 2018/2019

3 **Answer the following questions:**

21) Use the distributive property to find: $32 \times 117 - 32 \times 17$

....

....

22) Find the S.S. of the inequality $2x - 2 \geq 4$, where $x \in \mathbb{Z}$.

....

....

23) A cuboid box with a square base of side length 10 cm and its height is 6 cm.

Find its lateral area and total area.

....

....

24) In the Cartesian coordinate plane locate the points A (1 , 1) , B (-3 , -1), C (0 , -2),

then draw the image of $\triangle$ ABC by translation ($x + 5$, $y - 1$) on graph.
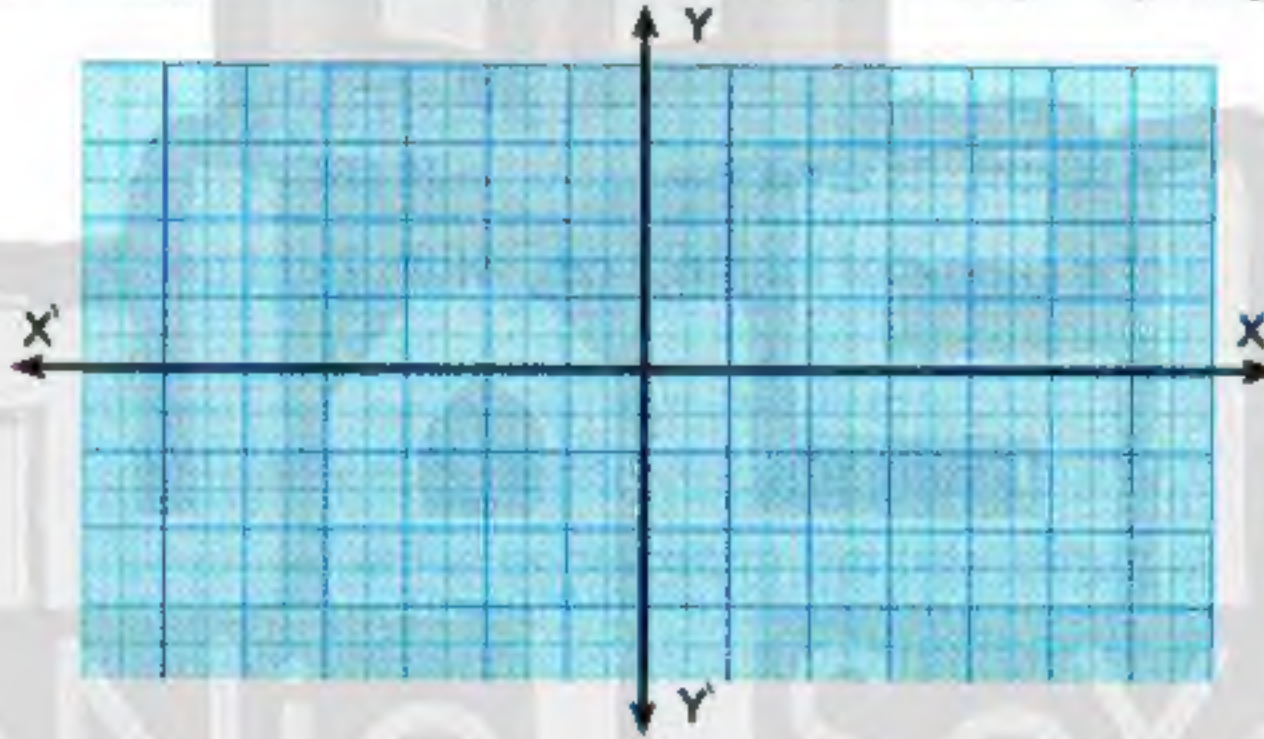
25) From the following table:

Farm	1st	2nd	3rd	4th
Percentage of the production	40%	25%	20%	15%

Represent these data by a pie chart.

....

....

....

Gem كتاب　　موقع ذاكرولى التعليمى　　الصف السادس الابتدائى

④ Cairo ፡ Al-Zeitoun Educational Administration ፡ Gomhoria Language School ፡

1 Choose the correct answer:

1) $(-1)^3$ .... $(3)^{zero}$ (< or = or > or ≥)

2) $|-5| + 4$ .... $\mathbb{Z}$ (∈ or ∉ or ⊂ or ⊄)

3) The smallest non-negative number is ....   (1 or 0 or −1 or −2)

4) $x + 1 = 7$ is of the .... degree   (zero or 1st or 2nd or 3rd)

5) The solution set of the inequality $-2 \leq x < -1$ is ....

                       ({−2 , −1} or {−1} or {−2} or ∅)

6) The additive inverse of $|-3|$ is ....   (0 or 3 or −1 or −3)

7) $\frac{25-5}{4}$ .... $\mathbb{Z}$.   (∈ or ∉ or ⊂ or ⊄)

8) The image of the point (4 , −2) by translation ($x + 2$, $y -1$) is ....

                 ((4 , −2) or (2 , −1) or (6 , −3) or (−2 , −1))

9) A circle of diameter 10 cm, its area = ... π cm².   (25 or 100 or 3.14 or 31.4)

10) The lateral area of a cuboid of length 3 cm, width 2 cm and height 4 cm

    is .... cm²   (20 or 24 or 40 or 52)

11) If the probability of the pupils who succeeded in a classroom is 0.7, then the

    probability of the pupils who are expected to fail is ....

                   (0.3 or 0.1 or 12 or 28)

12) $P(\emptyset) =$ .... $\left(1 \text{ or } 0 \text{ or } \frac{1}{2} \text{ or } \frac{5}{3}\right)$

2 Complete the following:

13) The solution set of inequality $x - 1 < 0$ in $\mathbb{N}$ is ....

14) $\mathbb{Z}^+ - \mathbb{Z}^- =$ ....

15) A circle its circumference is 88 cm, then its radius length = ... cm. $\left(\pi \simeq \frac{22}{7}\right)$

16) $\frac{2^2 \times 2^6}{2^3} =$ ....

17) A cube of volume 1000 cm³, its side length is .... cm.

18) Having A (−2 , 1) and B (3 , 1), then the length of $\overline{AB} =$ .... length unit(s).

19) The probability of the certain event = ...

20) If the area of one face of a cube is 9 cm², then its total area = ...

3 *Answer the following questions:*

21) Use the distribution property to find: $3 \times (-2) + 3 \times 5$

....

....

....

22) Find the solution set in $\mathbb{N}$: $3x - 2 = -17$

....

....

....

23) The sum of edge lengths of a cube is 144 cm. Find its lateral area and its total area.

....

....

....

24) Find the area of the shaded part: $\left(\pi \simeq \frac{22}{7}\right)$
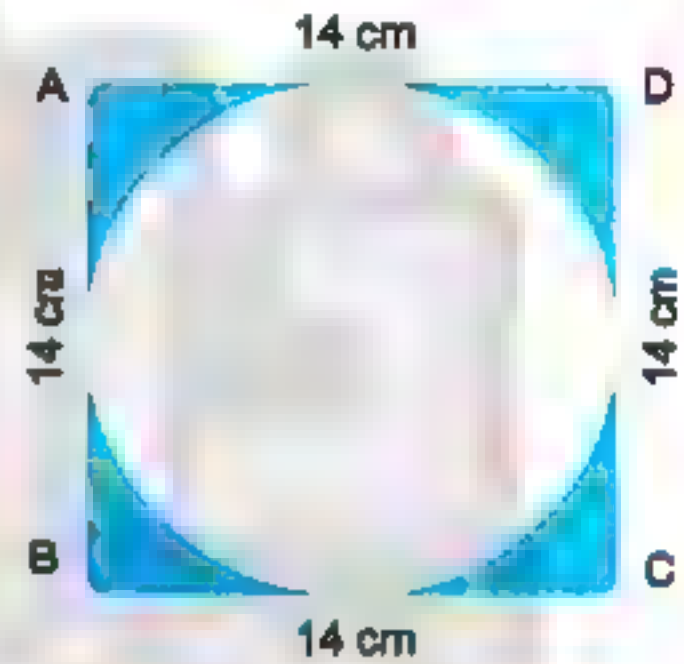
25) The following table shows the number of students participating in school activities.

Activities	Cultural	Sports	Social	Arts
Percentages	25%	50%	15%	10%

Represent these data by a pie chart.

Worksheets & Exams

5 Cairo El-Marg Educational Directorate El-Shams Language School

1 Choose the correct answer:

1) When tossing a coin once, then the probability of getting a head is ....

(0 or 1 or 0.5)

2) If the area of one face of a cube is 9 cm², then its total surface area is .... cm²

(36 or 54 or 81)

3) $\mathbb{Z}^+ \cap \mathbb{Z}^- = $ ....

$\left(\mathbb{Z} \text{ or } \varnothing \text{ or } \mathbb{Z} \right)$

4) The measure of the central angle of the circular sector which represents $\frac{1}{12}$ from the area of the circle = ...

(90° or 60° or 30°)

5) $(-1)^8 + (-1)^9 + (-1)^{zero} = $ ....

(-1 or 1 or 0)

6) If a dice is tossed once, then the probability of getting a prime number = ...

$\left(\frac{1}{3} \text{ or } \frac{1}{2} \text{ or } 1 \right)$

7) If $4x = 24$, $x \in \mathbb{Z}$, then $x = $ ....

(12 or 24 or 6)

8) The multiplicative neutral element in $\mathbb{Z}$ is ....

(0 or 1 or 2)

9) $|-5| + 3$ .... $\mathbb{Z}$

($\in$ or $\subset$ or $\notin$)

10) The image of the point $(-1 , 2)$ by translation $(-2 , 3)$ is ....

$((0 , 5)$ or $(1 , 3)$ or $(-3 , 5))$

11) If the diameter length of a circle is 20 cm, then its area = ... cm². where ($\pi = 3.14$)

(314 or 3.14 or 0.314)

12) $5 \times |-4| = $ ....

(20 or −20 or 9)

13) $5^7 + 5^5 = $ ....

(5^{12} or 5^2 or 5^0)

14) $\varnothing$ .... $\{a , b\}$

($\in$ or $\subset$ or $\notin$)

2 Complete the following:

15) $3 \times (-2) = (-2) \times 3$ is called .... property.

16) $(-4) \times [(4) + (-4)] = $ ....

17) If $A(2 , 4)$ and $B(2 , -1)$, then the length of $\overline{AB} = $ .... units.

18) If the sum of edge lengths of a cube is 96 cm, then its lateral area = ... cm².

19) If the equation: $x^2 - 3 = 6$ is of the .... degree.

20) If $x \in \{2 , -2\} \cap \{4 , -2\}$, then $x = $ ....

Final Examinations from Different Governorates 2018/2019

21) $\frac{5^3 \times 5^4}{5^7} =$ ....

22) If the probability of the appearance of the event A is $\frac{5}{7}$, then the probability of the non-appearance of the event A = ...

3 **Answer the following questions:**

23) **a)** **Find** the solution set in $\mathbb{Z}$ of the equation: $2x + 1 = -9$

....

....

b) **Find** the solution set in $\mathbb{Z}$ of the inequality: $3x - 2 \leq 7$

....

....

24) A cuboid its length is 6 cm, its width is 4 cm and its height is 8 cm. **Find** its lateral area and its total area.

....

....

25) The following table shows the percentages of the favourite sport for the pupils in one of the schools:

Favourite sports	Football	Handball	Basketball
Percentage	50%	30%	20%

Represent these data by circular sectors.

26) On the coordinate plane, **determine** the points A (2 , 2), B (1, 0), C(3 , 0) , D (4 , 2), then **find** its image by translation (x, $y + 4$) and **what** is the name of the shape ABCD?

Gem كتاب   موقع ذاكرولي التعليمي   الصف السادس الابتدائي
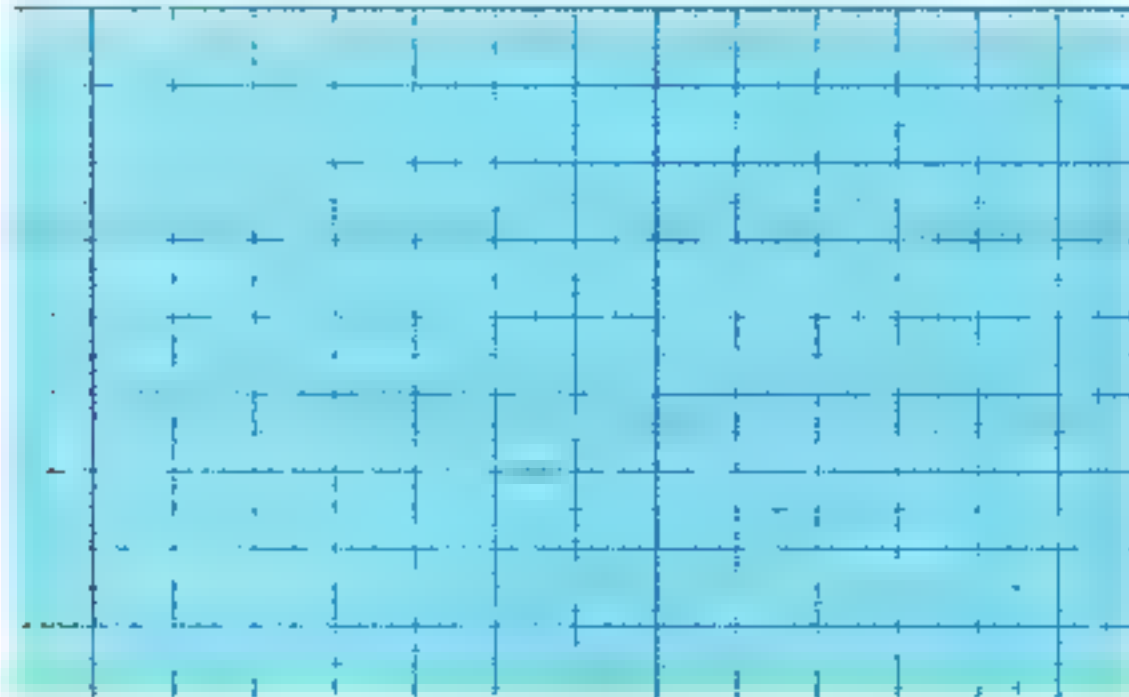
6 Giza 6ᵗʰ October Directorate Sun Gate L.Schools

1 *Choose the correct answer from those given:*

1) The integer number which is included between –2 and 3 is .... (3 or –3 or –4 or –1)

2) $\frac{-5}{7}$ .... $\mathbb{Z}$ ($\not\subset$ or $\subset$ or $\not\subset$ or $\in$)

3) $(-1)^2 + 1 =$ ....   (–2 or 0 or 1 or 2)

4) The image of the point (–3 , 4) by translation (0 , – 4) is ....

[(–3 , 0) or (–7 , 4) or (–3 , 8) or (–1 , 4)]

5) {Zero} $\subset$ ....   ($\mathbb{Z}^+$ or $\mathbb{Z}^-$ or $\varnothing$ or $\mathbb{Z}$)

6) A cube of edge length 6 cm, its total area = ... cm²   (36 or 72 or 144 or 216)

7) A die is thrown once, then the probability of getting the number 5 = ...

(0 or $\frac{1}{6}$ or $\frac{5}{6}$ or 1)

8) If the length of the radius of a circle is 10 cm, then its surface

area equals .... cm². ($\pi \approx 3.14$)   (3.14 or 31.4 or 314 or 3140)

9) If $x - 1 = 2$, then $x =$ .... where $x \in \mathbb{N}$ (3 or 1 or –1 or –3)

10) $|-7| + 7 =$ ....   (–14 or zero or 7 or 14)

11) If the total area of a cube is 600 cm², then its edge length = ... cm

(5 or 10 or 6 or 100)

12) The measure of the angle for the circular sector of half a circle is ....

(90° or 120° or 180° or 270°)

2 *Complete each of the following:*

13) The probability of the impossible event = ...

14) $\mathbb{Z}^+ \cap \mathbb{Z} =$ ....

15) $32 \times 85 + 15 \times 32 =$ ....

16) If the length of the edge of a cube is 4 cm, then its total surface area

equals .... cm².

17) The angle of a circular sector is called a central angle because its vertex is .... of

the circle.

هذا العمل خاص بموقع ذاكرولي التعليمي ولا يسمح بتداوله على مواقع أخرى

Gem كتاب موقع ذاكرولي التعليمي الصف السادس الابتدائي

Final Examinations from Different Governorates 2018/2019

18) The solution set of the inequality: $x + 1 < 5$, $x \in \mathbb{N}$ is ....

19) If $x \subset \{2, -3\} \cap \{5, -3\}$, then $x =$ ....

20) The lateral area of a cuboid = ...

3 Answer the following questions:

21) Find the result of each of the following:

a) $(-5) \times [7 + (-5)]$

b) $\dfrac{7^4 \times 7^5}{7^7}$

22) Find the solution set of the inequality: $2x - 3 < 1$ where $x \in \mathbb{N}$ and represent it on the number line.

23) Find the solution set, where $x \in \mathbb{Z} : x + 4 > 5$.

24) In the coordinate plane, represent the points A $(0, 1)$, B $(2, 1)$ and C $(2, 4)$, then find:

a) The length of $\overline{BC}$.

b) The image of $\triangle ABC$ by translation $(0, 2)$.

25) The following table shows the number of students participating in some activities:

Activities	Cultural	Sports	Social	Arts
Percentages	10%	40%	15%	35%

Represent these data by a pie graph.

Worksheets & Exams

7 **Giza - Al-Haram Educational Area**

1 Choose the correct answer:

1) $\mathbb{Z}^+ \cap \mathbb{Z}^- = $ ....   ($\mathbb{Z}^+$ or $\mathbb{Z}^-$ or $\varnothing$ or $\mathbb{N}$)

2) The greatest negative integer is ....,   (0 or –1 or 1 or 2)

3) If $7x = -14$, then $x = $ ....,   (7 or –2 or –7 or –21)

4) The degree of the equation $x^3 - 4x^2 = 12$ is ....   (3rd or 2nd or 1st or 4th)

5) All the following numbers satisfy the inequality $x > -3$ except ....,   (0 or –1 or –2 or –4)

6) The image of the point $(-3, 5)$ by translation $(x + 3, y - 5)$ is ....   ((6 , 10) or (0 , 5) or (0 , 0) or (3 , 0))

7) If $x = -1$, $y = 2$, then the value of $x + y = $ ....   (2 or 3 or 1 or –1)

8) $(-1)^8 + (-1)^9 = $ ....,   (1 or Zero or 2 or –2)

9) When tossing a coin the probability of getting a head is ....   ($\frac{1}{2}$ or 1 or $\frac{3}{4}$ or $\frac{1}{4}$)

10) in the opposite figure:

Area of $\triangle ABC = $ .... cm^2 (12 or 6 or 10 or 7.5)

11) If a circular sector represents $\frac{1}{3}$ of a circle, then the measure of its central angle = ...   (120° or 90° or 60° or 180°)

12) A cube its edge length is 3 cm, then its total area = ... cm^2. (54 or 36 or 27 or 9)
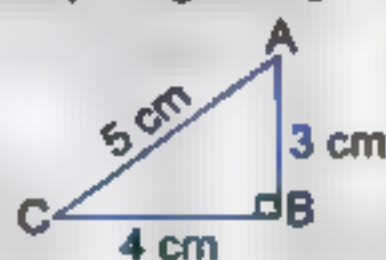
2 Complete the following:

13) If $a = 3$, $b = -2$, then the value of: $-3 ab = $ ....

14) If $x - 3 = 4$, then $x = $ ....

15) If $x = (3, 2)$, $y = (3, -4)$, then the length of $\overline{xy} = $ .... units.

16) A cuboid, its dimensions are 3 cm, 4 cm and 5 cm, then its lateral area = ... cm^2.

17) If $2y = 8$, then $y + 3 = $ ....

18) The probability of the impossible event = ...

19) A circle, its radius length is 7 cm and then its circumference = ... π cm.

20) The lateral area of the cube = area of one face × ....

Gem كتاب موقع ذاكرولي التعليمي الصف السادس الابتدائي

3 *Answer the following questions:*

21) Simplify: $\dfrac{7^5 \times 7}{7^3}$ (Show the steps.)

....

....

....

22) In the Cartesian coordinate plane, **draw** $\triangle ABC$ where A (1 , 1), B (4 , 1) and

C (4 , 4), then **find** the image of $\triangle ABC$ by translation (1 , −2)
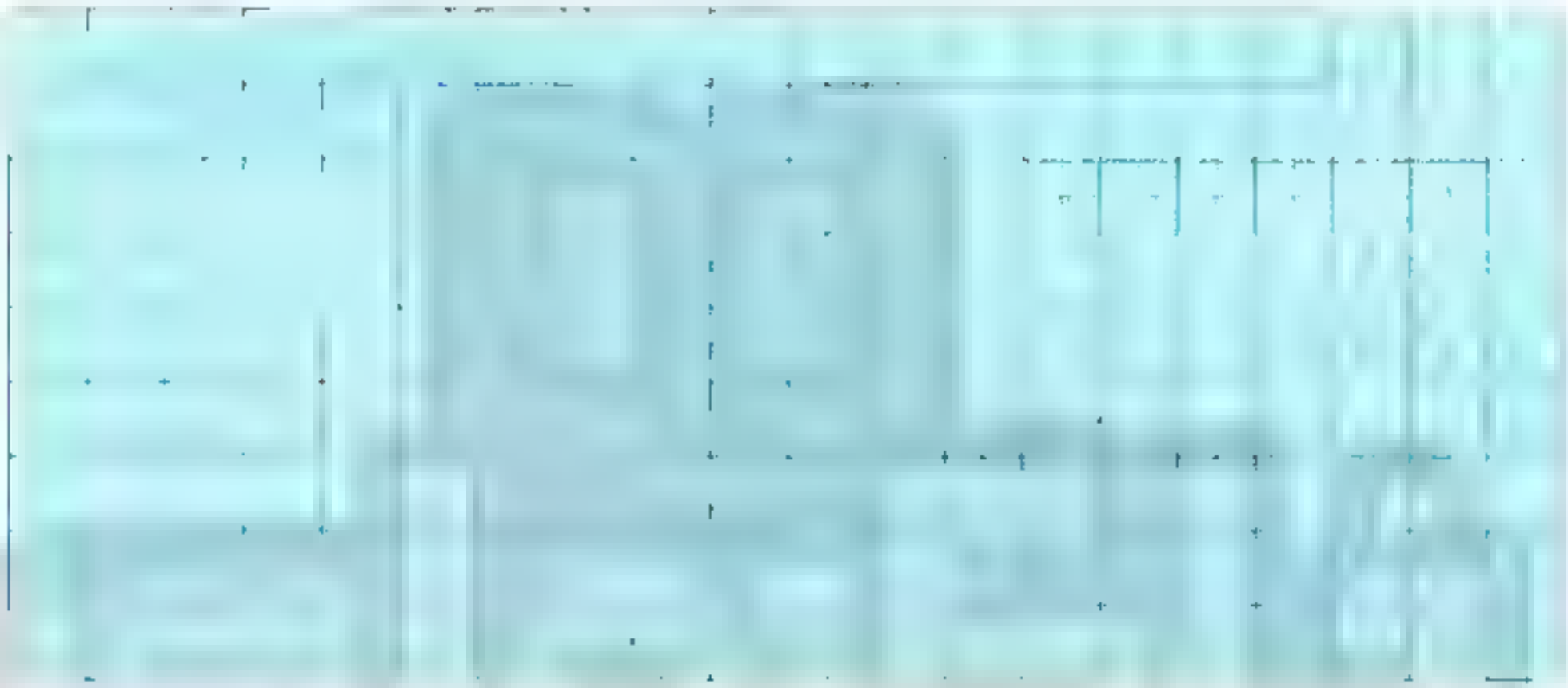
23) **Find** the area of the given figure. $\left(\pi = \dfrac{22}{7}\right)$

....

....

....

⟵ 14 cm ⟶
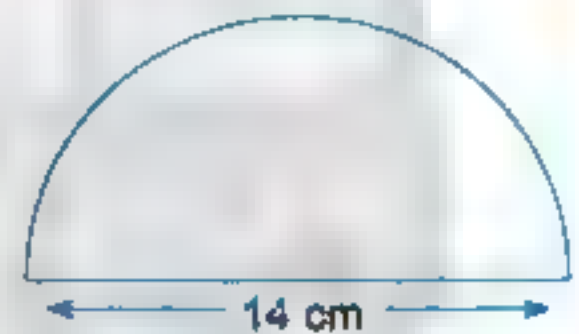
24) **Find** the solution set of each of the following:

a) $2x + 9 = 13$ $(x \in \mathbb{Z})$ b) $x - 1 < 2$ $(x \in \mathbb{N})$

25) The following table shows the percentage of production of a factory of home electric appliances.

Kinds of appliances	Washing machine	Heater	Oven	Mixer
Percentage	25%	25%	20%	30%

Represent these data by circular sectors.

Gem كتاب   موقع ذاكرولي التعليمي   الصف السادس الابتدائي

Worksheets & Exams

8 Giza - Orman Private School

1 Choose the correct answer:

1) $\mathbb{Z} - \mathbb{N} = $ .... ($\mathbb{Z}^+$ or $\mathbb{Z}^-$ or $\mathbb{Z}$ or $\mathbb{N}$)

2) $(-1)^8$ .... $(-1)^9$ (> or < or = or ≤)

3) The area of the square = side length × ....

(side length **or** diagonal **or** height **or** width)

4) If the length of the radius of a circle is 10 cm, then its surface area equals .... cm^2.

Given that ($\pi = 3.14$) (3.14 **or** 31.4 **or** 314 **or** 3140)

5) If $x - 2 = -4$, then $x = $ .... where $x \in \mathbb{Z}$ (2 **or** 4 **or** -2 **or** -4)

6) A circle of diameter length 10 cm, its circumference = ... π cm. (5 **or** 10 **or** 15 **or** 25)

7) The probability of the impossible event = ... (zero **or** 1 **or** 0.5 **or** 1.2)

8) The number which satisfies the inequality: $x > -2$ is .... (-1 **or** -2 **or** -3 **or** -4)

9) The image of the point (-3 , 4) by translation (x , y - 4) is ....

((-3 , 0) **or** (-7 , 4) **or** (-3 , 8) **or** (-1 , 4))

10) The smallest non-negative integer number is .... (1 **or** 0 **or** -1 **or** 2)

11) If $x - 1 = 2$, then $x = $ .... (3 **or** 13 **or** 17 **or** 11)

12) The equation: $3x^3 + 5 = 5$ is of the .... degree. (first **or** second **or** third **or** fourth)

13) The height of a cuboid whose total area is 120 cm^2 and the dimensions of its base

are 4 cm and 6 cm equals .... cm. (3 **or** 6 **or** 6.3 **or** 3.6)

14) The probability of getting a number divisible by 3 in an experiment of rolling a fair die

once is .... (0 **or** $\frac{1}{3}$ **or** $\frac{1}{2}$ **or** 1)

2 Complete each of the following:

15) The perimeter of the rectangle = ...

16) $\mathbb{Z}^+ \cap \mathbb{Z}^- = $ ....

Final Examinations from Different Governorates 2018/2019

17) The probability of the sure event = ...

18) The additive identity element in $\mathbb{Z}$ is ....

19) The lateral area of a cube = the area of one face × ....

20) The equation: $5x^2 - 3 = 17$ is of the .... degree.

---

3 **Answer the following questions:**

21) Find the result of: $\dfrac{(-2)^7 \times (-2)^8}{(-2)^9}$

22) Find the solution set of the equation:

$2x - 3 = -9$, where $x \in \mathbb{Z}$

23) Find the solution set of the inequality:

$2x - 1 \leq 5$, where $x \in \mathbb{N}$, then represent the solution set on the number line.

24) A circle, its circumference is 88 cm, calculate the area of its surface where $\left(\pi \simeq \frac{22}{7}\right)$.

25) A cuboid whose total area is 132 cm² and its lateral area is 112 cm². Calculate the area of its base.

26) The following table shows the percentages of production of chickens on four farms within one month:

Farms	First	Second	Third	Fourth
Percentages of production	15%	30%	20%	35%

Represent these data by circular sectors.

Gem كتاب　　موقع ذاكرولي التعليمي　　الصف السادس الابتدائي

9 Alexandria Mathematics Inspection

1 **Complete the following:**

1) If $x = |- 8|$, then $x = $ ....

2) If a dice is rolled once, then the probability of getting a number ≤ 5 is ....

3) 3 km = ... metres.

4) The height of the cuboid whose lateral area is 150 cm^2 and the dimensions of its base are 6 cm and 9 cm is .... cm.

5) If $2x = -6$, $x \in \mathbb{Z}$, then the set of solution is ....

6) The surface area of the semi-circle is .... π cm^2.

7) The number which if it is added to its double, the result will be 9 is ....

8) The image of the point (2, −1) by translation 3 units in the positive direction of x-axis is ....

2 **Choose the correct answer:**

9) $(3)^6 + (-3)^6 = $ .... $((-3)^9$ or $(3)^9$ or (-3) or $3)$

10) If $\left|\frac{x}{3}\right| = 4$, then $x = $ .... (12 or (−12) or −12 only or 12 only or others)

11) The solution set of inequality $2 \leq x < 3$, where $x \in \mathbb{N}$ is .... ({5} or {2} or {2, 1.5} or {2, 3})

12) The ratio between the total area and lateral area of a cube = ... (1 : 4 or 2 : 3 or 3 : 2 or 4 : 1)

13) $\frac{81}{3}$ .... $\mathbb{Z}^+$ ($\in$ or $\notin$ or $\not\subset$ or $\subset$)

14) The solution set of the inequality $x < 0$ in $\mathbb{Z}$ is .... ($\mathbb{Z}^+$ or $\mathbb{Z}^-$ or $\mathbb{N}$ or $\varnothing$)

15) If the probability of failure of a student is 0.23, then the probability of his success = ... (1 or 0.23 or 0.77 or 7.7)

16) $36 \times 65 + 15 \times (-36) = 36 (65 .... 15)$ (− or + or × or ÷)

17) If $\varnothing$ is the empty set, then $P(\varnothing) = $ .... (1 or 0 or 0.5 or $\varnothing$)

18) The circle whose diameter length is 14 cm, its area = ... where $\left(\pi \simeq \frac{22}{7}\right)$ (44 cm^2 or 154 cm^2 or 154 cm or 44 cm)

19) The number which satisfies the equation: $x + 3 = -17$, where $x \in \mathbb{Z}$ is .... (15 or −5 or 5 or −20)

20) If A (− 4, 4), B (1, 4), then the length of $\overline{AB} = $ .... units (−5 or 5 or 3 or −3)

هذا العمل خاص بموقع ذاكرولي التعليمي ولا يسمح بتداوله على مواقع أخرى

Gem كتاب موقع ذاكرولي التعليمي الصف السادس الابتدائي

Final Examinations from Different Governorates 2018/2019

Answer the following questions:

21) Find the solution set of the inequality $2x - 2 \leq 4$, where $x \in \mathbb{Z}$, then represent the solution set on the number line.

....

....
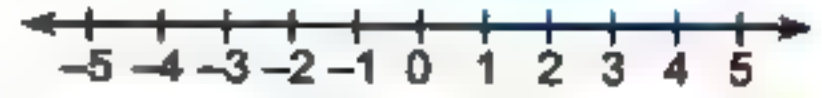
22) If $a = -2$, $b = -3$, $c = 0$, then find the value of: $-(a + b)^c$.

....

....

23) The total area of a cube is 468 cm^2, find:

1) The area of one face

2) The lateral area

....

....

24) On the coordinate plane,

find and draw the image of $\overline{AB}$

by translation $(2, -1)$

$A^{`} = ($ ........ , ........ $)$ , $B^{`} = ($ .... , ... $)$

....

....
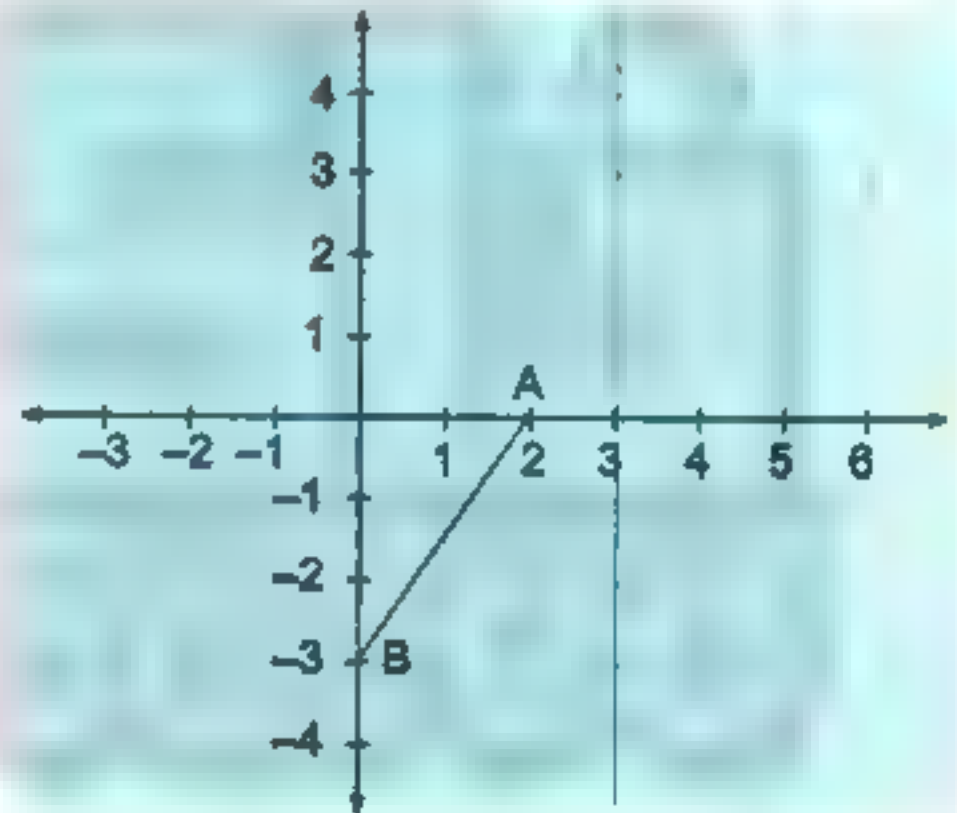
25) The following table shows the percentage of production of three farms.

	The first	The second	The third
The percentage	%	%	30%

Complete the previous table and find the measures of the central angles of the opposite circular sectors.

The third

The second

The first 90°

هذا العمل خاص بموقع ذاكرولي التعليمي ولا يسمح بتداوله على مواقع أخرى

Gem كتاب موقع ذاكرولي التعليمي الصف السادس الابتدائي

Worksheets & Exams
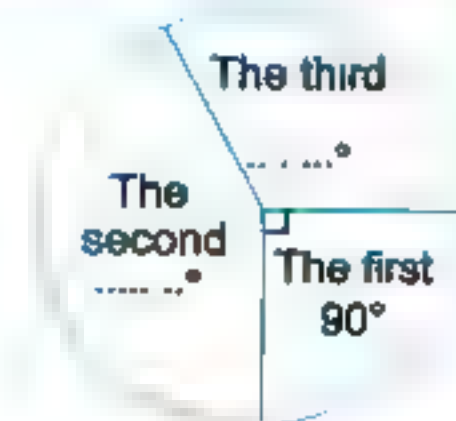
10 **Alexandria - El-Montazah Educational Zone**

1 Choose the correct answer:

1) $(-1)^7 + (-1)^4 =$ .... (zero or 1 or −1 or 11)

2) The image of the point $(2, -3)$ by translation $(x - 1, y)$ is ....

$((1, -3)$ or $(2, -1)$ or $(2, -4)$ or $(-1, -3))$

3) 0 .... $\mathbb{Z}$ ($\in$ or $\notin$ or $\subset$ or $\not\subset$)

4) The symbolic expression for "x is less than or equal to 2" is ....

$(x > 2$ or $x < 2$ or $x \leq 2$ or $x = 2)$

5) If a regular die is tossed once, then the probability of the appearance

of the number 4 = ... , (zero or $\frac{4}{6}$ or $\frac{1}{6}$ or 4)

6) The area of the circle whose radius length is 7 cm = ... cm^2.

$(7\pi$ or 14π or 42π or $49\pi)$

7) The neutral element of addition in $\mathbb{Z}$ is .... (1 or 0 or −1 or 2)

8) The number which satisfies the inequality $4 > x > -2$ of the following is ....

(4 or −4 or −1 or −2)

9) If $x + 2 = 5$, where $\in \mathbb{Z}^-$, then the solution set of the equation is .... ,

$(\emptyset$ or $\{3\}$ or $\{-3\}$ or $0)$

10) The equation $x^2 + 3^2 = 9$ is of the .... degree. (second or third or fourth or fifth)

11) The measure of the angle of a circular sector whose area is $\frac{1}{4}$ the area of the circle

is .... ($360°$ or $180°$ or $270°$ or $90°$)

12) 2 .... $|-13|$ (> or = or ≥ or <)

2 Complete the following:

13) The circumference of a circle = ... $\times \pi$

14) The result of $5 + [(3 - 1) + 2]$ is ....

15) $\dfrac{4^4 \times 4^3}{4^5} =$ ....

16) If $x - 3 = 12$, then $x =$ ...., where $x \in \mathbb{Z}$

17) If the perimeter of one face of a cube is 40 cm, then is lateral area = ... cm^2

18) When tossing a coin once, then the probability of getting a head = ...

19) The set of integers $\mathbb{Z} = \mathbb{Z}^+ \cup$ .... $\cup \mathbb{Z}^-$

20) The image of the point $(1, -2)$ by translation $($............ , ...$)$ is the point $(0, 0)$

Final Examinations from Different Governorates 2018/2019

③ Answer the following questions:

21) Find in $\mathbb{Z}$ the solution set of the equation $2x - 1 = -3$

....

....

22) If the lateral area of a cube is 36 cm^2, **calculate** its total area.

....

....

23) **Use** the properties of multiplication in integers to **calculate** $4 \times (-33) \times 25$

....

....

24) In the opposite coordinate plane, determine the following:

   a) The image of $\overline{DE}$ where $D'(5,2)$

     $D(2, 0)$ and $E(-1, 1)$ $E'(2,3)$

     by translation $(x + 3, y + 2)$.

   b) What is the name of
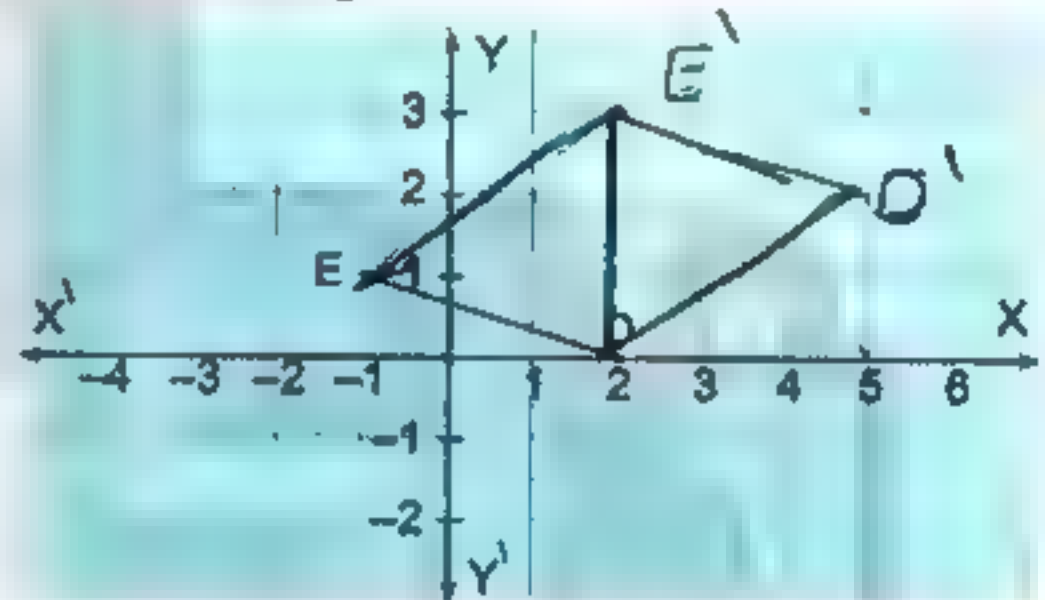
     the shape $DD'E'E$?

....

25) The following table shows the number of students participating in the school activities.

Activities	Sports	Arts	Cultural
Percentage	45%	25%	30%

Represent the data above by the circular sectors.

هذا العمل خاص بموقع ذاكرولي التعليمي ولا يسمح بتداوله على مواقع أخرى

11   Alexandria East Educational Directorate

Choose the correct answer:

1) $\mathbb{Z} = \mathbb{N} \cup$ ....   ({0} or ∅ or $\mathbb{Z}^+$ or $\mathbb{Z}$)

2) {0} .... $\mathbb{Z}$ (∈ or ∉ or ⊂ or ⊄)

3) If $x \in \{2, 5, -3\} \cap \{-5, -2, -3\}$, then $x =$ ....   (−5 or −3 or −2 or 2)

4) $(9)^2$ .... $(-3)^4$ (> or < or = or ≥)

5) (-7) .... $(-|-5|)$ (> or < or = or ≥)

6) The solution set of the equation: $x - 2 = 3$ in $\mathbb{Z}$ is ....   (5 or 1 or {5} or {3})

7) The number which satisfies the inequality $x + 4 > 2$ is ....   (−1 or −2 or −3 or −4)

8) A cube of edge length 6 cm; then its lateral area = ... cm^2 (216 or 180 or 144 or 108)

9) The image of the point (......... , ...) by translation ($x - 3, y + 4$) is $(-5, -3)$.

     ($(-8, 15)$ or $(-2, 7)$ or $(-8, 7)$ or $(-2, -7)$)

10) The lateral area of the cube = Area of one face × ....   (2 or 4 or 6 or height)

11) The sum of measures of the angles of the sectors around the centre of

     the circle = ...   (100° or 150° or 180° or 360°)

12) If ∅ is empty set; then P (∅) = ...   (0 or 2 or 1 or 0.5)

Complete the following:

13) $|-5| + |7| =$ ....

14) $5 \times (-3 + 7) = 5 \times (-3) + 5 \times$ ....

15) In $\mathbb{N}$: $x + 4 < 7$, then S.S. = ...

In the opposite coordinate plane:

16) A (.............., ...,)

17) The length of $\overline{AC}$ = ...units.

Final Examinations from Different Governorates 2018/2019
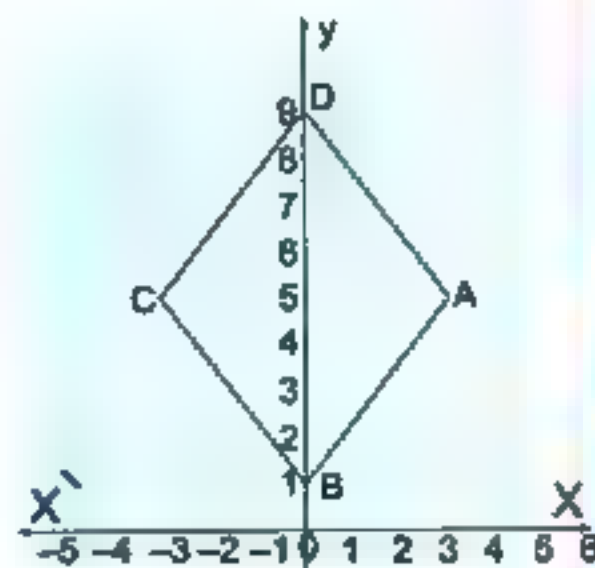
18) If the lateral area of a cube is 100 cm², then its total area = ... cm²

19) If the perimeter of the base of a cuboid is 10 cm, its height is 4 cm,

then its lateral area = ... cm²

20) When tossing a die once, then the probability of getting the number 5 = ...

3 **Answer the following questions:**

21) Arrange the following numbers in ascending order: −9 , 17 , |−9| , −15 , 16

The order is .... , ... , ... , ... and ....

22) Find the result in the simplest form by using the basic laws of repeated multiplication:

$$\frac{(-5)^3 \times (-5)^2}{(-5)^4}$$

....

....

....

23) A circle its diameter is 7 cm, calculate its surface area, where $\pi \simeq \frac{22}{7}$.

....

....

....

هذا العمل خاص بموقع ذاكرولي التعليمي ولا يسمح بتداوله على مواقع أخرى

Worksheets & Exams

(12) ▌▌ *Menofia - Official Language Schools* ▌

1 *Choose the correct answer:*

1) If $3x = 27$, then $x = $ ....   (3 **or** 9 **or** 12 **or** 24)

2) The image of the point $(3, -4)$ by translation $(2, -1)$ is ....

          ($(1, -3)$ **or** $(5, -5)$ **or** $(6, 4)$ **or** $(-1, 3)$)

3) $(-2)^2$ .... $(3)^{zero}$ (< **or** > **or** = **or** ≤)

4) If a die is tossed once, then the probability of getting a prime number = ...

         (0.2 **or** 0.5 **or** 0 **or** 1)

5) $\mathbb{Z}^+ \cup \{0\} = $ .... ,   ($\mathbb{N}$ **or** $\mathbb{Z}^-$ **or** $\mathbb{Z}^+$ **or** $\mathbb{Z}$)

6) The ratio between the lateral area : the total area of the cube = ...

       (1 : 2 **or** 1 : 3 **or** 2 : 3 **or** 3 : 1)

7) A cuboid with square base, its lateral area = 200 cm^2, and its height = 5 cm, then

   the side length of its base = ... cm   (5 **or** 10 **or** 15 **or** 20)

8) $\{\frac{3}{9-4}\}$ .... $\mathbb{Z}$ ($\in$ **or** $\notin$ **or** $\subset$ **or** $\not\subset$)

9) If A = S, then P(A) = ...   (0 **or** 1 **or** 0.5 **or** 0.3)

10) The measure of the central angle of a quarter of a circle is ....

       (60° **or** 90° **or** 180° **or** 360°)

11) The number of lines of symmetry of a square = ...   (0 **or** 1 **or** 2 **or** 4)

12) The number which verifies the inequality $2x + 1 < -1$ is ....,   (4 **or** –2 **or** 0 **or** –1)

2 *Complete the following:*

13) The number which if added to its twice, the result will be 9 is ....

14) $3 + |-3| = $ ....

15) The degree of the equation: $x^2 - 6 = 3$ is ....

16) The greatest non-positive integer number is ....

17) The sum of measures of the interior angles of a triangle = ...

18) The solution set of the equation: $x - 2 \leq 1 \in \mathbb{N}$ is ....

19) The additive inverse of $(-5)^2$ is ....

20) $\mathbb{Z}^+ \cap \mathbb{Z}^- = $ ....

Final Examinations from Different Governorates 2018/2019

3 **Answer the following questions:**

21) Find the value of $\dfrac{2^4 \times (-2)^3}{(-2)^5 \times (-2)^2}$ (Show your steps.)

....

....

22) If the length of a cuboid box without a lid is 16 cm, its width is 7 cm and its height is 9 cm, calculate its lateral area and total area.

....

....

23) A square inscribed in a circle with radius 7 cm,

find the surface area of the shaded part $\left(\pi = \dfrac{22}{7}\right)$

....

....

24) Find the solution set of the following, where $x \in \mathbb{Z}$.

a) $x + 8 = 19$

....

....

b) $1 - 2x > 5$

....

....

25) The following table shows the percentages of students who participated in school activities.

Activities	Sports	Social	Arts
Percentages	40%	35%	25%

Represent these data by circular sectors.

هذا العمل خاص بموقع ذاكرولي التعليمي ولا يسمح بتداوله على مواقع أخرى

(13) Gharbia - Directorate of Education

1 Choose the correct answer:

1) $\mathbb{Z} - \mathbb{N} = $ ....   ($\mathbb{Z}^+$ or {0} or $\mathbb{Z}^-$ or 0)

2) The equation $2x^3 = 4$ is of the .... degree.   (1st or 2nd or 3rd or 4th)

3) The image of the point A $(-4, 3)$ by translation $(-1, -4)$ is ....

   $((-5, 7)$ or $(-5, -1)$ or $(-7, 3)$ or $(-3, -1))$

4) Two consecutive natural numbers, the smaller one is x, then the greater is ....

   $(2x$ or $x + 1$ or $2x + 1$ or $x - 1)$

5) $(3)^0 + (-3)^0 = $ ....   (6 or 0 or 1 or 2)

6) A circle of diameter 8 cm, its area = ... cm^2 (9π or 8π or 16π or 64π)

7) If: $x \in \mathbb{N}$, then the S.S. of the inequality $-x > 3$ is ....

   $(\{4, 5, ...\}$ or $\{3\}$ or $\{-4, -5, -6 ....\}$ or $\varnothing)$

8) A basket contains cards numbered from 1 to 20. If a card is drawn randomly, then the probability that the number written on it is divisible by 6 = ...

   $\left(\dfrac{3}{20}$ or $\dfrac{4}{20}$ or $\dfrac{5}{20}$ or $\dfrac{6}{20}\right)$

9) The additive inverse of (-5) is .... $(-10$ or $\dfrac{1}{-5}$ or $|-5|$ or 0)

10) The probability of success of a student is 70%, then the probability of his failure is ....

   (0.7 or 0.07 or 0.3 or 0.03)

11) The area of one face of the cube = ... its total area. $\left(\dfrac{1}{2}$ or $\dfrac{1}{8}$ or $\dfrac{1}{6}$ or $\dfrac{1}{4}\right)$

12) The S.S. of the inequality $-2x < 0$ in $\mathbb{Z}$ is ....   ($\mathbb{N}$ or $\mathbb{Z}$ or $\varnothing$ or $\mathbb{Z}^+$)

2 Complete the following:

13) The lateral area of a cube = ... × ....

14) If five times of a number equals 60, then the number is ....

15) The image of the point $(-1, 2)$ by translation $(2, -2)$ is ....

16) A circle, its circumference is 62.8 cm, then its area = ... cm^2, where $(\pi = 3.14)$

17) $|-1| \times (-4) = $ ....

18) The lateral area of a cuboid with base in the shape of a square with side length 8 cm and height 5 cm = ... cm^2

19) $(-5)^2 \times (5)^3 = 5^{\ldots}$

20) If the sum of edge lengths of a cube is 24 cm, then its lateral area = ... cm^2

📖 **Answer the following questions:**

21) **Find** the value of: $\dfrac{(8)^3 \times (8)^3}{(-8)^6}$

....

....

22) In the opposite figure: If ABCD is a rectangle,

whose length = 8 cm, and width = 7 cm, then

calculate the area of the shaded part $\left(\pi \simeq \dfrac{22}{7}\right)$

....

....
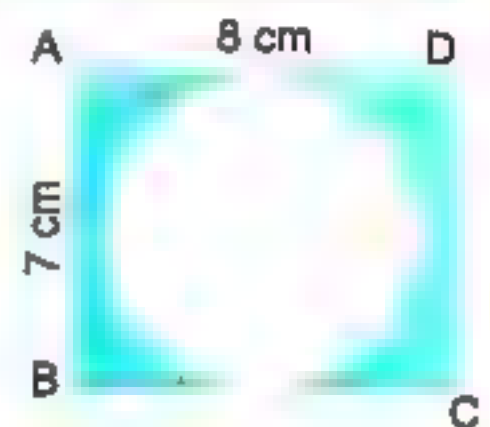
23) **Draw** $\triangle$ ABC, where

A (1 , 1), B (-3 , -1)

and C (0 , -5)
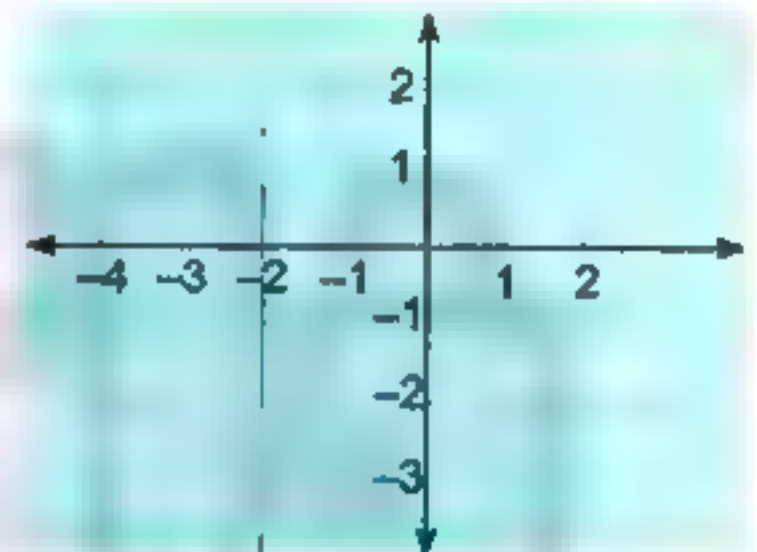
24) In an experiment of throwing a fair die once and observing the number on the upper

face, **find:** the probability of each of the following events:

1) Getting a number greater than 6 = ...

2) Getting a prime number = ...

25) The following table shows the percentages of the production of chickens on four

farms within one month: **Represent by pie chart.**

Farms	1st	2nd	3rd	4th
Percentage	10%	35%	30%	25%

14 **Kafr El-Sheikh - Kafr El-Sheikh Educational Directorate**

① Choose the correct answer from those given:

1) The additive identity element in $\mathbb{Z}$ is ………. (1 or −1 or 0 or 10)

2) When tossing a coin once, the probability of getting a head = …… (Zero or 2 or 1 or 0.5)

3) ………… represents an inequality. ($x > 7 − 5$ or $3x + 2 = 11$ or $2x = 24$ or $\frac{x}{5} = 4$)

4) $− |− 45| = $ …………… (45 or − 45 or |45| or |− 45|)

5) The image of the point (−1,2) by translation of magnitude 3 units in the positive direction of x-axis is ………… . ((−3, 0) or (2 , 2) or (−2 , 2) or (−1 , 3))

6) The number which satisfies the inequality: $2x + 1 \leq −1$ ………… (4 or 2 or 0 or −1)

7) If the total surface area of the cube is 726 cm^2, then its lateral surface area = ……… cm^2 (484 or 121 or 242 or 181.5)

8) If $x + 6 = 2$, where $x \in \mathbb{Z}$, then $x = $ ………… (4 or − 4 or 12 or −12)

9) If S is the sample space of a random experiment, then P(S) = ………… (zero or 2 or 1 or 0.8)

10) $\mathbb{Z}^{+}$ ………… N (⊂ or ⊄ or ∈ or ∉)

11) The degree of the equation $x^3 − 4x^2 = 0$ is ………… (first or second or third or fourth)

12) The total surface area of the cube = area of one face × ………… (12 or 4 or 3.14 or 6)

② Complete each of the following:

13) ………… is neither positive nor negative.

14) The surface area of the circle = $\pi \times$ …………

15) The perimeter of the base of a cube is 24 cm, then its total area is ………… cm^2.

16) If $\{2 , x\} \cup \{ −4 , 0 , 4 \} = \{0 , 2 , −2 , −4 , 4\}$, then $x = $ …………

17) A ball was selected without looking from a box that contains 8 white balls and 12 red balls, then the probability of selecting a white ball = …………

18) The image of the point (8 , −10) by translation (−3 , 4) is …………

19) If $\frac{x}{5} = 4$, then $x = $ ………….

20) The lateral surface area of the cuboid = perimeter of the base × …………

3 **Answer the following:**

21) Use the distributive property to find the value of:

$63 \times 85 + 63 \times 15$

....

....

....

22) Find the solution set of the inequality $3x + 2 \leq 11$ in $\mathbb{Z}$:

....

....

....

23) A cuboid shaped box with a square base its side length is 9 cm and its height is 20 cm. Calculate its lateral area and its total area.

....

....

....

....
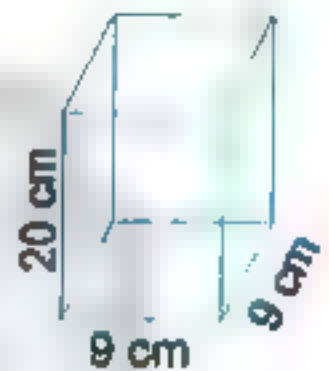
24) Nahid is a clerk in an institution, she contributes with her husband by her salary as shown in the following table:.

House rent	Food	Savings
25%	50%	25%

Represent these data by circular sectors.

25) A circle of diameter length 12 cm. Calculate its surface area. ($\pi \simeq 3.14$)

....

....

....

Worksheets & Exams

15   **Damietta – Official Language Schools**

Choose the correct answer:

1) $\mathbb{Z} \cap \mathbb{N} = \ldots\ldots\ldots$ ($\mathbb{Z}$ or $\mathbb{Z}^+$ or $\{0\}$ or $\mathbb{N}$)

2) The equation: $x^3 + 4 = 5$ is of the $\ldots\ldots\ldots$ degree.

(first or second or third or fourth)

3) A circle, its radius is 4 cm, then its area =$\ldots\ldots\ldots$ π cm^2 (4 or 8 or 12 or 16)

4) The image of the point $(-3 , 5)$ by translation $(x + 1, y - 2)$ is $\ldots\ldots\ldots$

($(-4 , 3)$ or $(-2, 3)$ or $(-2 , -3)$ or $(2 , 3)$)

5) If a fair die is tossed once, then the probability of getting an odd number = $\ldots\ldots\ldots$.

$\left(0 \text{ or } 1 \text{ or } \frac{1}{3} \text{ or } \frac{1}{2}\right)$

6) $|-4| - |4|$ $\ldots\ldots\ldots$ (zero or 1 or 8 or –8)

7) All the following numbers satisfy the inequality $x > -3$ except $\ldots\ldots\ldots$

(zero or -4 or -1 or 2)

8) The sum of edge lengths of a cube is 96 cm, then its lateral area = $\ldots\ldots\ldots$ cm^2

(8 or 64 or 256 or 384)

9) A circular sector represents $\frac{1}{3}$ of a circle, then the measure of its central angle = $\ldots\ldots\ldots$ °

(90 or 120 or 180 or 270)

10) If $3x = -9$, then: $x \in \ldots\ldots\ldots$ ($\mathbb{N}$ or $\mathbb{Z}^+$ or $\emptyset$ or $\mathbb{Z}$)

11) $(-1)^8 + (-1)^6 + (-1)^{zero} = \ldots\ldots\ldots$ (zero or –1 or 1 or 2)

12) The solution set of the inequality: $2 \leq x < 3$ where $x \in \mathbb{N}$ is $\ldots\ldots\ldots$

($\{zero\}$ or $\{2\}$ or $\{3\}$ or $\{2 , 3\}$)

Complete the following:

13) $\dfrac{(-2)^7 \times (-2)^6}{2^{10}} = \ldots\ldots\ldots$

14) If: $x - 3 = |-7|$, then $x = \ldots\ldots\ldots$

15) If: $x (-3 , 2)$, $y (-3 , -4)$, then the length of $\overline{xy} = \ldots\ldots\ldots$ units.

16) The height of a cuboid whose lateral area is 160 cm^2 and dimensions of its base are 7 cm and 3 cm = $\ldots\ldots\ldots$ cm.

17) A box contains 5 white balls, 3 blue balls and 8 red balls, all of them are symmetric, one ball is drawn from the box at random, then the probability that the drawn ball is red = $\ldots\ldots\ldots$

Gem كتاب   موقع ذاكرولي التعليمي   الصف السادس الابتدائي

Final Examinations from Different Governorates 2018/2019

18) The multiplicative identity element in $\mathbb{Z}$ is ....

19) The image of the point $(-1, 2)$ by translation of magnitude of 3 units in the positive direction of Y-axis is ....

20) The surface area of the circle = ...

3 Answer the following:

21) **Find** the solution set of inequality: $3x - 2 \geq 4$, where $x \in \mathbb{Z}$.

....

....

22) Use the properties of addition and subtraction in $\mathbb{Z}$.

   Find: $115 + 390 + (-115)$ (Write the used property.)

....

....

23) A cube of edge length 12 cm. **Find** the total area.

....

....

24) A circle whose diameter is 14 cm, **calculate** its area $\left(\text{where } \pi \simeq \frac{22}{7} \right)$.

....

....

25) The following table shows the rate of the score of 200 students in one school of Cairo Governorate.

Rate Percentage	Excellent	Good	Pass	Weak
	15%	50%	25%	10%

Represent these data by circular sector.

....

....

16 **Sharkia - Sharkia Educational Directorate**

1 **Choose the correct answer:**

1) $(-1)^{105} + (-1)^{20} = $ .... (2 or 1 or -1 or zero)

2) If $x + 2 = |-5|$, then $x = $ .... (-7 or 7 or 3 or -3)

3) If $x \in \{2, -3\} \cap \{5, -3\}$, then $x = $ .... (-2 or -1 or 3 or -3)

4) If a fair die is tossed once, then the probability of the appearance of the number 5 = ...

(zero or $\frac{1}{6}$ or $\frac{5}{6}$ or 1)

5) $3^2 + 3^2 + 3^2 = $ .... , (3^6 or 9^2 or 3^3 or 9^6)

6) If $2x = -4$, $x \in \mathbb{Z}$, then the set of solution is ....

($\{2\}$ or $\{-2\}$ or $\{4\}$ or $\{-4\}$)

7) The image of the point $(-4, 3)$ by translation $(-1, -4)$ is ....

($(-5, 7)$ or $(-5, -1)$ or $(-7, 3)$ or $(-3, -1)$)

8) $\mathbb{Z}^+ \cap \mathbb{Z}^- = $ .... (zero or 1 or -1 or $\varnothing$)

9) The sum of the measures of all angles accumulative at the centre of a circle equals ....

($90°$ or $108°$ or $180°$ or $360°$)

10) The number which satisfies the inequality $x > -2$ is .... (-1 or -2 or -3 or -4)

11) If $x = |-2|$, $y = -3$, then $x y = $ .... (5 or -5 or 6 or -6)

12) The total area of the cube with 3 cm edge length = ... cm^2 (12 or 27 or 36 or 54)

2 **Complete the following:**

13) $(-5) \times [7 + (-5)] = $ .... (in the simplest form)

14) The degree of the equation: $3x^2 + 4x - 1 = 0$ is ....

15) A circle of diameter length 8 cm, then its area = ... π cm^2.

16) $7^0 + (-7)^0 = $ ....

17) The additive inverse of $(-8)^0$ is ....

18) The greatest negative integer is ....

19) At throwing a fair die and observing the upper face, then the probability of getting a number greater than 6 equals ....

20) $\dfrac{a^m}{a^n} = a^{...}$ (where $m, n \in \mathbb{Z}^+$, $m \geq n$)

72 GEM / MATHS / Primary 6

Final Examinations from Different Governorates 2018/2019

3 **Answer the following:**

21) **Find** the result of: $\dfrac{(2)^5 \times (-2)^3}{(-2) \times (2)^4}$

....

....

22) A cuboid, its length is 6 cm, its width is 4 cm and its height is 8 cm, **find:**

    1) The lateral area.   2) The total area.

    ....

    ....

23) a) **Find** the solution set of the inequality: $x + 3 < 5$ (where $x \in \mathbb{Z}$).

    ....

    ....

    b) **Find** the solution set of the equation: $2x + 1 = -9$ in $\mathbb{Z}$.

    ....

    ....

24) **In the opposite figure:**

    M is a circle of radius length 14 cm is divided into

    8 equal circular sectors. **Find:**

    1) The surface area of the circle M.

    2) The area of one circular sector. $\left(\pi = \dfrac{22}{7}\right)$

    ....

    ....
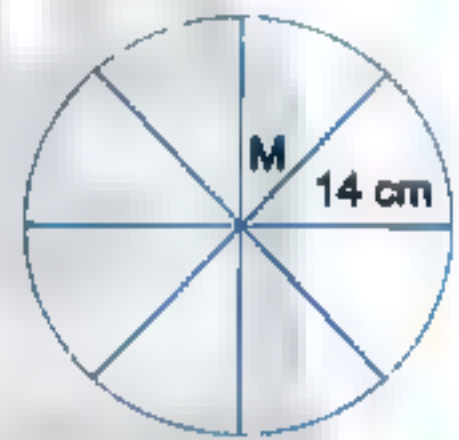
25) The following table shows the percentage of the production of a factory of electric sets (4 kinds):

Kinds of the sets	TV	Washing machine	Refrigerator	Cooker
Amount of the production	35%	25%	15%	25%

Represent these data by pie charts.

    ....

    ....

Worksheets & Exams

(17) **Port Said - Mathematics Inspection**

1 *Choose the correct answer:*

1) The circumference of a circle = $\pi \times$ ....   (r or r^2 or 2r or 3.14)

2) If $-2x = 10$, then $x \in$ ....   (ℕ or Ø or $\mathbb{Z}^+$ or $\mathbb{Z}$)

3) The number which satisfies the inequality $x - 2 > 3$ is ....   (−1 or −2 or 6 or 4)

4) $(-1)^8 + (-1)^9 =$ ....   (zero or −1 or 1 or 2)

5) $|5 - 11|$ .... $\mathbb{Z}$ (⊄ or ∈ or ⊂ or ∉)

6) $2^5 \times 2^2 =$ ....   (2^7 or 2^4 or 2^3 or 1)

7) When tossing a die, the probability of getting a number on the upper face more than 6 = ...   (Ø or zero or 1 or 2)

8) $|-3| =$ ....   (3 or −3 or −|3| or 3 − 3)

9) The total area of a cube = area of one face × ....   (4 or 5 or 6 or 8)

10) The probability of impossible event = ...   (Ø or zero or 1 or 2)

11) The image of the point (2 , 3) by translation $(x + 1, y + 2)$ is ....   ((3 , 4) or (3 , 5) or (4 , 3) or (5 , 3))

12) If $x + 6 = 2$, $x \in \mathbb{Z}$, then $x =$ ....   (4 or |−4| or −4 or |4|)

---

2 *Complete the following:*

13) $3 + |-3| =$ ....

14) The perimeter of the base of a cuboid is 10 cm and its height is 4 cm, then its lateral area = ...

15) The probability of the sure event = ...

16) The sum of measures of all accumulated angles of the sectors at the centre of a circle = ...

17) The area of the circle = ... $\times \pi$.

18) If the total area of a cube is 150 cm², then the length of its edge is .... cm.

19) $\mathbb{Z}^+ \cup \{0\} =$ ....

20) If $3x = 9$, then $x =$ ....

3 **Answer the following:**

21) **Find** the result of $(4 \times 3^2 \times 3^2) - 7 \times 3$

....

....

....

22) In the coordinate plane, locate the points A $(0 , 1)$, B $(4 , 3)$, C $(4 , 7)$, then **find**:

1) The length of $\overline{BC}$ = ... units

2) The image of $\triangle$ ABC by translation $(0 , -4)$

23) **Find** the solution set of the inequality $x - 2 \geq 3$, where $x \in \mathbb{Z}$, then represent it on the number line.

....

....

....

24) A cuboid-shaped box with a square base, its length is 10 cm and its height is 7 cm. **Calculate** the lateral area.

....

....

....

25) The following table shows the percentage of the production of a factory of house electric sets.

Kinds of sets	Washing machine	Heater	Oven	Mixer
Percentage	30%	15%	40%	15%

Represent these data by circular sectors.

(18) Ismailia - Directorate of Education

1 Choose the correct answer:

1) $\mathbb{Z} - \mathbb{N}$ = ... $\quad\quad\quad\quad\quad\quad\quad\quad$ ($\mathbb{Z}^+$ or $\mathbb{Z}^-$ or zero or $\mathbb{N}$)

2) The probability of the certain event = ... $\quad$ (zero or 1 or 5 or $\frac{1}{2}$)

3) The image of the point (3 , 5) by translation (2 , –1) is .... ((5 , 6) or (5 , 4) or (1 , 4) or (1 , 6))

4) The sum of the measures of all the central angles of the sectors around the centre of the circle is .... $\quad\quad\quad\quad\quad\quad$ (90° or 80° or 270° or 360°)

5) If $x = |-2|$, y = –3, then xy = ... $\quad\quad\quad\quad\quad$ (–5 or 5 or –6 or 6)

6) The degree of the equation: $x^2 + 3 = 4$ is of the .... degree. $\quad$ (first or second or third or fourth)

7) If the area of one face of a cube is 25 cm^2, then its lateral area = ... cm^2

$\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad$ (150 or 20 or 25 or 100)

8) If $2x = 10$, $x \in \mathbb{N}$, then x = ... $\quad\quad\quad\quad$ (3 or 4 or 5 or 6)

9) $(3)^{zero} + (-3)^{zero}$ = ... $\quad\quad\quad\quad\quad\quad$ (6 or 0 or 1 or 2)

10) All the following numbers satisfy the inequality $x > -3$ except ....

$\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad$ (0 or – 4 or –1 or –2)

11) A circle, its diameter length is 6 cm, then its surface area = ... cm^2

$\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad$ (3π or 6π or 9π or 36π)

12) The distance between two points A (–3 , 2) and B (2 , 2) = ... length units

$\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad$ (–5 or 2 or 5 or 1)

2 Complete the following:

13) The greatest negative integer number is ....

14) The probability of getting a head when tossing a regular coin once is ....

15) The ratio between the lateral area of a cube and its total area = ... : ....

16) If the sum of all edge lengths of a cube is 144 cm, then its total area = ... cm^2

17) If $x - 2 = |-4|$, then x = ...

18) The multiplicative identity element in $\mathbb{Z}$ is ....

19) If the base of a cuboid is in the shape of a square of side length 10 cm and its height is 7 cm, then its lateral surface area = ... cm^2

20) A circle's circumference is 88 cm, then its area = ... cm^2 $\quad$ $\left(\pi = \frac{22}{7}\right)$

Gem كتاب موقع ذاكرولي التعليمي الصف السادس الابتدائي

3 **Answer the following;**

21) **a)** Simplify: $\dfrac{7^6 \times 7^3}{7^4}$

....

....

b) Use the properties to find the result: $116 + 190 + (-116)$

....

....

22) **Find** the solution set of the equation: $2x + 1 = -13$ in $\mathbb{Z}$.

....

....

23) A cuboid's length is 6 cm, its width is 4 cm and its height is 8 cm. **Find** its lateral area and total area.

....

....

24) A box contains 10 identical balls numbered from 1 to 10, one ball is drawn at random, write the sample space, then **find** the probability that the drawn ball has:
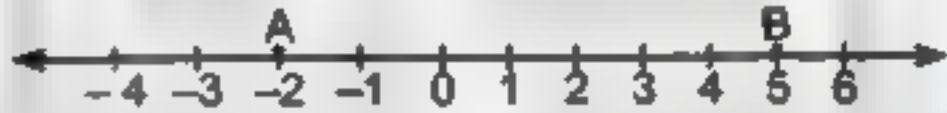
1) An odd number

2) A number divisible by 3

3) An even prime number

4) A number more than 6

....

....

25) **Draw** $\triangle$ ABC on a squared lattice, where A (4 , 4), B (0 , 2) and C (6 , -2), then **find** its image by translation $(x - 4, y + 1)$.

Worksheets & Exams

1 *Choose the correct answer:*

1) When tossing a die once, the probability of getting a number on its upper face more than 6 = ... (zero or $\frac{1}{6}$ or $\frac{1}{3}$ or $\varnothing$)

2) {0} .... $\mathbb{N}$ ($\subset$ or $\not\subset$ or $\in$ or $\notin$)

3) The equation $x^2 + 3 = 8$ is of the .... degree. (first or second or third or fourth)

4) |−5| .... 5 ($\geq$ or = or > or <)

5) $(-1)^8 + (-1)^9 = $ .... (−1 or zero or 1 or 2)

6) The sum of the measures of the accumulative angles at a point = ...° (90 or 180 or 270 or 360)

7) If $2x = -6$, then $x \in$ .... ($\mathbb{N}$ or $\varnothing$ or $\mathbb{Z}^+$ or $\mathbb{Z}$)

8) $\frac{1}{7} \times 7^5$ .... 1 ($\geq$ or = or > or <)

9) The total area of the cube = area of one face X .... (2 or 4 or 6 or 8)

10) AB = ... units

$$\xleftarrow{\quad} \overset{\overset{A}{\downarrow}}{\underset{-4\ -3\ -2\ -1\ \ 0\ \ 1\ \ 2\ \ 3\ \ 4\ \ 5\ \ 6}{}} \overset{\overset{B}{\downarrow}}{} \xrightarrow{\quad}$$

(8 or 7 or 5 or −2)

11) $5 \times (-4) = $ .... (−20 or 20 or 9 or −1)

12) The image of the point (−3 , 4) by translation $(x , y - 4)$ is ....

((−3 , 0) or (−7 , 4) or (−3 , 8) or (−1 , 4))

2 *Complete the following:*

13) $\mathbb{Z} - \mathbb{N} = $ ....

14) The circumference of the circle = ... $\times \pi$

15) $\frac{2^2 \times 2^5}{2^2} = $ ....

16) If $x + 6 = 2$, $x \in \mathbb{Z}$, then $x = $ ....

17) The lateral area of the cuboid = perimeter of the base $\times$ ....

18) A cube of edge length 10 cm, then its lateral area = ...

Final Examinations from Different Governorates 2018/2019

19) ─────── = (length + width) × 2

20) A box contains 5 white balls, 3 blue balls and 8 red balls all of them are symmetric. One ball is drawn from the box at random. Then the probability that the drawn ball is red = ──────

---

3 **Answer the following:**

21) Use the properties of addition in $\mathbb{Z}$ to find the result of:

$(-7) + 19 + 17$ (state the property used in each step)

....
....
....

22) Find the solution set of the following inequality in $\mathbb{Z}$: $x - 2 \leq 3$

....
....
....

23) A circle its radius is 7 cm, calculate its surface area $\left(\text{where } \pi \approx \frac{22}{7}\right)$.

....
....
....

24) A cuboid-shaped box with a square base, its length is 10 cm, its height is 7 cm. Calculate the lateral area.

....
....
....

25) The following table shows the percentages of the production of a factory of house electrical sets.

Kinds of sets	Washing machine	Heater	Oven	Mixer
Percentage	25%	15%	40%	20%

Represent these data using circular sectors.

Worksheets & Exams

(20)   *Fayoum - Directorate of Education*

1 Choose the correct answer:

1) $\mathbb{N} \cup \mathbb{Z}$ ....   ($\mathbb{Z}^+$ or $\mathbb{Z}^-$ or $\mathbb{Z}$ or $\mathbb{N}$)

2) All the following numbers satisfy the inequality $x > -3$ except ...... (0 or –2 or –1 or –4)

3) $(-1)^{11} + (-1)^{10} =$ ....   (zero or –1 or 1 or 2)

4) If $\frac{x-1}{2} = 3$, $x \in \mathbb{Z}$, then $x =$ ....   (5 or 7 or –7 or 6)

5) $|-7| + 3$ .... $|-7 + 3|$ (> or = or < or ≠)

6) The additive inverse of $(-3)^0$ is ....   (3 or –3 or 1 or –1)

7) If $x = 4$, $y = -3$, then the negative number of the following is ....

                                        ($x + y$ or $x - y$ or xy or y^x)

8) The image of the point (4 , –3) by translation ($x - 3$, $Y + 3$)

   is ....   ((–7 , –6) or (1 , 0) or (0 , 1) or (7 , 6))

9) The probability of appearing a head when tossing a coin once = ... $\left(\text{zero or 2 or 1 or } \frac{1}{2}\right)$

10) If the probability of success of a student in mathematics is 75%, then the probability

   of his failure = ... $\left(25 \text{ or } 0.35 \text{ or } 1 \text{ or } \frac{1}{4}\right)$

11) The ratio between the lateral surface area and the total surface area of a cube = ...

                              (2 : 3 or 3 : 4 or 6 : 4 or 1 : 2)

12) The total surface area of a cuboid = 100 cm² and the area of one base is 20 cm², then

   its lateral surface area = ... cm².   (40 or 60 or 80 or 140)

2 Complete the following:

13) The degree of the equation $x^3 + 3x^2 + x + 4 = 11$ is the .... degree.

14) The solution set of the inequality $x \leq 0$ in $\mathbb{N}$ .... ,

15) The solution set of $x + 6 = 5$ in $\mathbb{N} =$ ....

16) If the perimeter of one face of a cube is 20 cm, then its total surface area = ... cm²

17) On the coordinates plane if the point A represents (–2 , 4) and the point B represents

   (5 , 4), then the length of $\overline{AB} =$ .... units.

Gem   كتاب   موقع ذاكرولي التعليمي   الصف السادس الابتدائي

Final Examinations from Different Governorates 2018/2019

18) A cuboid its lateral area is 120 cm², its length is 5 cm and its width is 4 cm, then its

height = ... cm.

19) $\dfrac{\text{Circumference of the circle}}{2\,\pi}$ = ...

20) .... ≤ the value of probability of any event ≤ ....

---

3 Answer the following:

21) Find the result: $\dfrac{(-5)^{5} \times (-5)^{4}}{(-5)^{7}}$

22) Find the solution set of the following equation in $\mathbb{Z}$: $3(x + 2) = 3$.

....

....

23) Calculate the area of a circle with radius 10 cm.   ($\pi \simeq 3.14$)

....

....

24) A box in the shape of a cuboid, its length 10 cm, width 5 cm and height is 8 cm.

Find its lateral surface area and its total surface area.

....

....

25) The following table shows the percentage of the favourite sports in a school.

Types of the sports	Football	Basketball	Handball
Percentage of students numbers	40%	35%	25%

Represent these data by the circular sectors.

....

....

....

....

....

Worksheets & Exams

(21) Assuit Directorate of Education

1 *Choose the correct answer:*

1) $|-9| + 3$ .... $\mathbb{Z}$ ($\in$ or $\notin$ or $\subset$ or $\not\subset$)

2) .... is the multiplicative identity (neutral) in $\mathbb{Z}$ (2 or 1 or Zero or 3)

3) The number which satisfies the inequality $x > -2$ is ....   (-1 or -4 or -3 or -2)

4) A fair die is thrown once, then the probability of appearing the number greater
than 6 = ...   (zero or 2 or 1 or 0.5)

5) If $2x + 9 = 5$ where $x \in \mathbb{Z}$, then $x =$ ....   (-4 or 4 or 2 or -2)

6) When tossing a die once, then the probability of getting a number divisible by 3
equals = ...   (zero or $\frac{1}{3}$ or $\frac{1}{2}$ or 1)

7) $2^6 \times 2^2 =$ ....   (2^3 or 2^4 or 2^8 or 2^{12})

8) The lateral area of a cuboid is 130 cm^2 and the perimeter of its base is 26 cm,
then the height = ... cm   (5 or 6 or 9 or 10)

9) x is greater than or equal to 3, the symbolic expression of this situation is ....
   ($x > 3$ or $x < 3$ or $x \leq 3$ or $x \geq 3$)

10) A circle its diameter length is 14 cm, then its surface area = ... cm^2. (where $\pi \simeq \frac{22}{7}$)
    (49 or 21 or 154 or 7)

11) A cube of total area 150 cm^2 the length of the edge is .. cm. (5 or 25 or 50 or 125)

12) The solution set of equation $2x = 6$ in $\mathbb{N}$ is ....   ($\{3\}$ or $\{-3\}$ or $\{12\}$ or $\{-12\}$)

2 *Complete the following:*

13) $\mathbb{Z}^+ \cap \mathbb{Z}^- =$ ....

14) If $3y = 6$, then $5y =$ ....

15) A circle of diameter length 10 cm, then its area = ... π cm^2.

16) The image of the point (3 , 5) by translation $(X + 2, y - 1)$ is ....

17) If the perimeter of one face of a cube = 24 cm, then its total area = ... cm^2.

18) The distance between two points A $(-3 , 2)$ and B $(2 , 2)$ = ... length units.

19) The equation $x^2 + 3 = 4$ is of the .... degree.

20) When tossing a die once, then probability of getting a number on the upper face
more than 5 = ...

(82)   GEM / MATHS / Primary 6

3 **Answer the following:**

21) **Find** the solution set of the following inequality:

$3x - 2 < 7$ where $x \in \mathbb{N}$

....

....

22) Use the properties of addition in $\mathbb{Z}$ to **find** the result of:

$(-116) + 190 + 116$ (State the property used in each step.)

....

....

23) In the opposite figure:

ABCD is a rectangle, its length 12 cm

and its width 7 cm. A circle is drawn

to touch the sides $\overline{AD}$ and $\overline{BC}$.

Calculate the area of the shaded part. $\left(\text{where } \pi \simeq \frac{22}{7}\right)$

....

....

24) The following table shows the number of students participating in school activities.

Activity	Culture	Sport	Social	Art
Percentage	20%	40%	25%	15%

Represent these data by circular sectors.

25) On a coordinate plane, **draw** line segment $\overline{AB}$ where: A (2 , 3), B (−2 , 0), then

find its image by translation ($x + 3$, $y - 2$).

....

....

....

....

....

22   **Qena - Qeft Educational Directorate**

Choose the correct answer:

1) $\mathbb{Z}^+ \cap \mathbb{Z}^- =$ ....   ($\mathbb{N}$ or $\varnothing$ or $\mathbb{Z}^+$ or $\mathbb{Z}$)

2) $19 - (-11) =$ ....   (8 or -8 or 30 or -30)

3) $2^3 + 2^2 =$ ....   (2^5 or 4^5 or 12 or 2)

4) If $x + 5 > 2$, then $x >$ ....   (-2 or -3 or -5 or -7)

5) If $2x = -6$, then $x \in$ .... ,   ($\mathbb{N}$ or $\varnothing$ or $\mathbb{Z}^+$ or $\mathbb{Z}$)

6) The circumference of a circle = ... $\times \pi$ (r or 2r or r^2 or r+2)

7) The number which satisfies the inequality $x - 2 > 3$ is ....   (3 or 4 or 5 or 6)

8) The edge length of a cube is 6 cm, then its lateral area = ... cm^2

    (144 or 216 or 24 or 36)

9) The image of the point $(-3, 1)$ by translation $(3, 2)$ is ....

    ($(0, 1)$ or $(0, 3)$ or $(3, 0)$ or $(1, 0)$)

10) The sum of the measures of all angles accumulated at the centre of a circle

   equals .... °   (630 or 180 or 306 or 360)

11) If a fair die is thrown once, then the probability of appearing an even number equals

    ....   (zero or 2 or 1 or 0.5)

12) $\{0\}$ .... $\mathbb{N}$ ($\in$ or $\notin$ or $\subset$ or $\not\subset$)

Complete the following:

13) $5^7 + (-5)^6 =$ ....

14) If $4x + 3 = 23$, then $x =$ ....

15) $\left|\dfrac{5 - 11}{3}\right| =$ ....

16) $54 \times 117 - 54 \times 17 =$ ...... $\times$ (...... $-$ ......) (Use the distributive property.)

17) The circle whose diameter length is 14 cm, then the surface area = ... cm^2 $\left(\pi \simeq \dfrac{22}{7}\right)$

18) The total area of a cube = the area of one face $\times$ ....

19) The additive identity is ...., the multiplicative identity is ....

20) The set of counting numbers .... $\mathbb{N}$.

Final Examinations from Different Governorates 2018/2019

3 Answer the following questions:

21) **Find** the value of: $\dfrac{2^5 \times (-2)^3}{2^4 \times (-2)}$

....

....

....

22) **Find** the S.S. of the inequality: $2x + 9 \leq 1$ and represent it on the number line if

1) $x \in \mathbb{N}$ 2) $x \in \mathbb{Z}$

....

....

....

23) A cuboid, its length is 6 cm, its width is 4 cm and its height is 8 cm, **find**:

1) Its lateral area.   2) Its total area.

....

....

....

24) A box contains 8 white balls, and 12 red balls where all balls are identical. If a ball is drawn randomly, **calculate** the probability of the following:

1) Drawing a white ball.   2) Drawing a red ball.

....

....

....

25) **Represent** the following data by circular sectors.

Farm	First	Second	Third
Percentage	25%	35%	40%

هذا العمل خاص بموقع ذاكرولي التعليمي ولا يسمح بتداوله على مواقع أخرى

Worksheets & Exams

23   **Sohag - City Private Schools**

1 **Choose the correct answer:**

1) $\{15\}$ .... $\mathbb{Z}^-$ ($\in$ or $\notin$ or $\subset$ or $\not\subset$)

2) The probability of getting an odd number when tossing a die once = ...

$$\left(\text{zero or 2 or 1 or } \frac{1}{2} \right)$$

3) The number which satisfies the equation $x - 2 = 3$ is ....   (3 or 4 or 5 or 6)

4) $(-1)^{100} + (-1)^{101} =$ ....

(zero or -2 or -3 or -4)

5) A cube of lateral area 36 cm^2, then its total area = ... cm^2

$\left(36 \text{ or } 54 \text{ or } 9 \text{ or } 45 \right)$

6) The image of the point $(4, 6)$ by translation $(x + 1, y - 3)$ is ....

$((5, 7) \text{ or } (6, 5) \text{ or } (2, 5) \text{ or } (5, 3))$

7) The degree of the equation $3x^3 - 3 = 16$ is ....   (first or second or third or fourth)

8) If $3x =$ zero, then $x =$ ....   (3 or zero or 1 or -3)

9) $\mathbb{Z}^+ - \mathbb{Z}^- =$ ....   ($\mathbb{Z}$ or $\mathbb{N}$ or $\varnothing$ or $\mathbb{Z}^+$)

10) The multiplicative identity in $\mathbb{Z}$ is ....   (zero or 1 or -1 or 2)

11) If the diameter of a circle = 14 cm, then its area = ... cm^2 $\left(\pi \simeq \frac{22}{7} \right)$

(144 or 451 or 154 or 44)

12) When tossing a die once, then the probability of getting number 3 = ...

$$\left(\text{zero or } \frac{3}{6} \text{ or } \frac{1}{2} \text{ or } \frac{1}{6} \right)$$

2 **Complete the following:**

13) The probability of getting a tail when tossing a coin once = ...

14) $(-3) + |-3| =$ ....

15) $\dfrac{6^4 \times 6^5}{6^7} =$ ....

16) If $X = (-2, 1)$, $Y = (-2, 5)$, then the length of $\overline{XY} =$ ....

17) The area of the opposite figure = ... $(\pi \simeq 3.14)$ $r = 10$ cm

18) The numbers lying between -5 and 0 are ....

19) $\mathbb{Z}^+ \cup \{0\} =$ ....

20) The greatest negative integer is ....
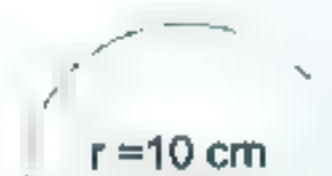
3 *Answer the following:*

21) Find the solution set of $3x + 1 > -5$ (where $x \in \mathbb{Z}$)

22) In the opposite figure if ABCD is a square whose length = 10 cm, **calculate** the area of the shaded part.

10 cm

A   B

D   C
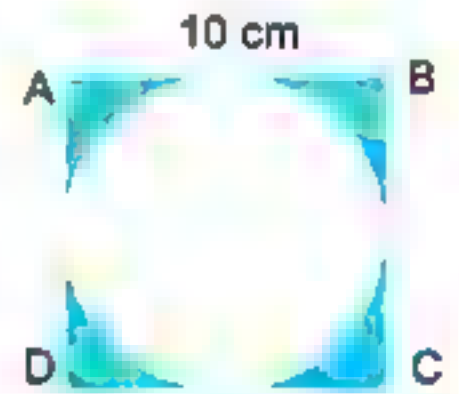
23) A box without a lid is in the shape of a cuboid, its length is 16 cm, its width is 7 cm and its height is 19 cm. **Calculate** its lateral area.
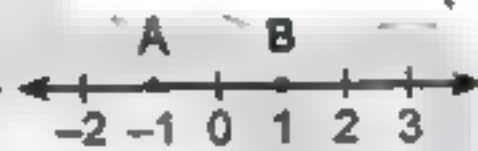
24) By using the distribution property, **find**: $(-11) \times [\,5 + (-3)\,]$

25) The following table shows the percentage of the favourite sports for your class students:

Favourite sports	Football	Volleyball	Basketball	Ping-pong
Percentage	40%	20%	10%	30%

Represent these data by circular sectors.

(24) ▸ **Luxor - Al-Salam Language School**

1 *Choose the correct answer:*

1) When tossing a coin once, then the probability of getting a head is ....

(0 or 2 or 1 or 0.5)

2) $(-19)^0 + (19)^0 = $ ....

(−1 or zero or 1 or 2)

3) The image of the point (3 , 5) by translation (2 , −1) is .... ((2 , 6) or (5 , 4) or (1 , 4) or (1 , 6))

4) The equation: $x^2 + 3 = 4$ is of the .... degree.

(first or second or third or fourth)

5) The smallest positive integer is ....

(0 or 1 or −1 or 2)

6) The perimeter of the base of a cuboid is 10 cm, its height is 4 cm its lateral area =

. ... cm^2.

(30 or 40 or 50 or 60)

7) If $x + 2 = |-5|$, then $x = $ ....

(−7 or 7 or 3 or −3)

8) The distance between the point A and B = ...

(2 or 3 or 4 or 5)

9) −7 2

(> or < or = or ≤)

10) The solution set of the equation: $x + 2 = -5$ in $\mathbb{Z}$ is {............}   (−3 or −7 or −8 or −9)

11) The number which satisfies the inequality: $x < -1$ is ....

(0 or 1 or 3 or −2)

12) The sum of measures of all the central angles of the sectors about the centre of

the circle = ... °.

(90 or 180 or 270 or 360)

2 *Complete the following:*

13) $\mathbb{Z}^+ \cap \mathbb{Z}^- = $ ....

14) If the sum of edges of a cube is 48 cm, then its edge length = ... cm

15) Probability of the impossible event = ...

16) If $x + 2 > 5$, then $x > $ ....,

17) The lateral area of a cuboid = perimeter of a base × ....

18) The solution set of the equation: $x + 2 = 6$ in $\mathbb{N}$ = {...............}

19) The image of the point (............. , ...) by translation (3 , 1) is (5 , 3).

20) Area of the circle = ...

(88) GEM / MATHS / Primary 6

Final Examinations from Different Governorates 2018/2019

3 *Answer the following:*

21) Find the result in the simplest form: $\dfrac{2^3 \times 2^4}{2^7}$

....

....

....

22) Find the solution set of the following inequality: $2x + 1 \geq 5$ in $\mathbb{Z}$.

....

....

....

23) A circle of diameter 14 cm, calculate its area. $\left(\pi \simeq \dfrac{22}{7}\right)$

....

....

....

24) The following table represents the percentages of the production of three factories of washing machines:

Factory	First	Second	Third
Percentage	25%	25%	50%

Represent these data by pie charts.

هذا العمل خاص بموقع ذاكرولي التعليمي ولا يسمح بتداوله على مواقع أخرى

Worksheets & Exams

Pre-exam Final Revision

1 **Choose the correct answer:**

1) $\mathbb{Z} - \mathbb{N} = $ .... $\qquad$ ($\mathbb{Z}^+$ or $\{0\}$ or $\mathbb{Z}^-$ or 0)

2) An integer included between -2 and 3 is .... $\qquad$ (-2 or -1 or 3 or -3)

3) A number which satisfies the inequality $x > -2$ is .... $\qquad$ (-1 or -4 or -3 or -2)

4) If $x = -2$, $y = 3$, then $2xy = $ .... $\qquad$ (12 or 10 or -12 or 3)

5) $(-2)^3 > $ .... $\qquad$ ($(-2)^3$ or 3^2 or $(-3)^3$ or 3^3)

6) A circle, its diameter length is 8 cm, its area $\simeq$ .... cm². $\left(\pi \simeq \frac{22}{7} \right)$

$\qquad$ (52 or 50 or 53 or 48)

7) If $A \subset \{2 , -5 , -3\} \cap \{5 , -2 , -3\}$, then $A = $ .... $\qquad$ ($\{2\}$ or $\{-3\}$ or $\{-5\}$ or $\{5\}$)

8) $\mathbb{N} \cup \mathbb{Z} = $ .... $\qquad$ ($\mathbb{Z}$ or $\mathbb{N} - \{0\}$ or $\mathbb{Z}^-$ or $\mathbb{Z}^+$)

9) If $x + 3 = 8, x \in \mathbb{Z}^-$, then the solution set = ... $\qquad$ ($\{-3\}$ or $\{5\}$ or $\{-5\}$ or $\emptyset$)

10) If $2x + 5 > 3, x \in \mathbb{Z}$, then the solution set = ... $\qquad$ ($\mathbb{N}$ or $\mathbb{N} - \{0\}$ or $\mathbb{Z}^-$ or $\mathbb{Z}^+$)

11) The image of the point A $(-4 , 3)$ by translation $(-1 , -4)$ is ....

$\qquad$ ($(-5 , -7)$ or $(-5 , -1)$ or $(-7 , 3)$ or $(-3 , -1)$)

12) $(-19)^0 + (19)^0 = $ .... $\qquad$ (-1 or 0 or 1 or 2)

13) $(-1)^{104} + (-1)^{103} = $ .... $\qquad$ (0 or -1 or 1 or 2)

14) $\left| -9 \right| + 3 + 2$ .... $\mathbb{Z}$ $\qquad$ ($\in$ or $\notin$ or $\subset$ or $\not\subset$)

15) If a dice is rolled once, then the probability of getting a number > 6 = ...

$\qquad$ ($\emptyset$ or Zero or $\frac{1}{6}$ or $\frac{1}{3}$)

16) The measure of the angle of the sector of a quarter of a circle is ....

$\qquad$ ($30°$ or $45°$ or $60°$ or $90°$)

17) $\mathbb{Z}^+ - \mathbb{Z}^- = $ ....   ($\emptyset$ or $\mathbb{N}$ or $\mathbb{N} - \{0\}$ or $\mathbb{Z}$)

18) If $2 \in \{3 , x - 3\}$, then $x = $ ....   (zero or –5 or 5 or 3)

19) If the area of one face of a cube equals 8 cm², then its total area = ... cm²

(12 or 30 or 42 or 48)

20) If the lateral area of the cuboid is 120 cm², and the two dimensions of its base are

4 cm and 6 cm, then its height = ... cm   (6 or 8 or 10 or 12)

21) Complete the following pattern: –5 , –10 , –15 , –20 , ...   (25 or –30 or –25 or –30)

22) $(-1)^8$ .... $(-1)^{13}$ ($>$ or $<$ or $=$ or $\leq$)

23) The surface area of the circle whose diameter length is 20 cm = ... cm² ($\pi \simeq 3.14$)

(3.14 or 31.4 or 314 or 3140)

24) The equation $3x^2 - x = 21$ is of the .... degree.   (fourth or third or second or first)

25) $(-2)^3 \times (-5)^3 = $ ....   ($(10)^0$ or 10 or $(10)^2$ or $(10)^3$)

26) If A (4 , 9) , B (4 , 5) , then the length of $\overline{AB} = $ .... units.   (3 or 4 or 5 or 6)

27) If A is an event in sample space S and P (A) = 0, then A is a/an .... event.

(impossible or sure or possible or otherwise)

28) The multiplicative neutral element in $\mathbb{Z}$ is ....   (0 or 1 or –1 or –2)

---

2 **Complete the following:**

1) The lateral surface area of a cuboid = ...

2) The random experiment is ....

3) $9 (4 + (-3)) = 9 \times$ .... + ... $\times$ .... = ...

4) The result of $\dfrac{(-7)^5 \times 7}{(-7)^3} = $ ....

Worksheets & Exams

5) 2 , 6 , 10 , 14 , ... in the same pattern and its rule is ....

6) If the total area of a cube is 150 cm², then its edge length = ...

7) $|-3| + |3| =$ ....

8) The probability of an impossible event = ...

9) The area of the circle whose circumference is 31.4 cm is .... cm² ($\pi = 3.14$)

10) The image of the point (3 , –2) by translation ($x - 2$, $y + 5$) is ....

11) If the probability of the appearance of event A is $\frac{2}{3}$, then the probability of non-appearance

of event A = ...

12) $3 \times (-5) = (-5) \times 3$ is called .... property.

13) The sum of measures of the accumulative angles at the centre of the circle is

equal to ....

14) If $a = -1$, $b = -3$, then the value of $3ab - 7 =$ ....

15) The solution set of the inequality $x \geq -2$, $x \in \mathbb{Z}$ is ....

16) The area of a piece of wood in the shape of a circle of radius length 7 cm is .... cm²

17) On throwing a fair die once, then the probability of appearing an even prime number = ...

18) The measure of the angle of the circular sector whose area represents $\frac{1}{6}$ of the

surface area of the circle = ...

19) $\frac{4^3 \times 4^6}{4^5} =$ ....

20) $-\frac{1}{4}$, $-\frac{1}{8}$, $-\frac{1}{16}$, ... , ... (in the same pattern)

21) The sample space of rolling a die once is ....

22) If A (–2 , 7) , B (–2 , 7), then the length at $\overline{AB}$ is .... units.

23) A circle its circumference is 88 cm, then its radius = ... cm. $\left(\pi \simeq \frac{22}{7} \right)$

24) If $6x = -42$, then $x = $ .. .. $(x \in \mathbb{Z})$

25) $-\left|-3\right| + 4 + (-8) = $ ....

26) The smallest non-negative integer number is ....

27) $8 \times ((-1) + \text{......}) = 8 \times \text{.....} + \text{..} \times 3$

---

3 Solve the following inequality in $\mathbb{Z}$, $-1 < 2x + 3 \leq 5$, and represent the solution on the number line

---

4 Find the S.S. of:

a) $2x - 3 \geq 5$ in $\mathbb{N}$

b) $5x - 3 = 2x + 3$ in $\mathbb{Z}$

---

5 Niveen used a piece of a square cardboard of side length 80 cm and she used cut and paste paper tools to design a cuboid with 40 cm length, 20 cm width and 30 cm height.

Show whether the piece of the cardboard is enough to design a cuboid or not.

---

6 Determine the following points A $(-3, 4)$, B $(1, 4)$ and C $(1, 2)$ on the coordinate plane, then find

a) AB = ... , BC = ...   **b)** The image of $\triangle$ ABC by translation $(0, -3)$.

---

7 The sum of the edge lengths of a cube equals 108 cm, find its lateral area and its total area, then find the ratio between them

---

8 Draw $\triangle$ ABC, where A $(1, 1)$, B $(-3, -1)$, C $(0, -5)$, then determine graphically its image by translation $(5, 0)$.

9 If the area of a circle = 2826 cm², **find its circumference where** (π = 3.14).

10 The following table shows the percentage of the production of one factory for 4 kinds of the electric sets.

Types of the sets	TV	Washing machine	Refrigerator	Cooker
Amount of the production	30%	25%	15%	30%

Represent these data by using the circular sectors.

11 The following table shows the number of hours that Nahed spends for revising different subjects weekly:

Subjects	Arabic	English	Maths	Science	Social studies	Other subjects
Number of hours	9	6	7	5	6	7

Represent the previous data by using the circular sectors, then answer the following questions.

a) What is the subject which takes the greatest number of hours for weekly revision?

b) What is the subject which takes the least number of hours for weekly revision?

c) What is your advice to Nahed?

12 A box contains 5 white balls and 9 red balls. All balls are symmetrical. If a ball is selected randomly, **write the sample space, then calculate the following probabilities:**

a) Selecting a white ball.

b) Selecting a red ball.

c) Selecting a ball which is neither white nor red.

Gem كتاب   موقع ذاكرولي التعليمي   الصف السادس الابتدائي

13 In an experiment of forming a number which consists of two digits without repeating a digit using the set of numbers {1 , 2 , 3}. **Find:**

a) The probability of getting an odd prime number.

b) The probability of getting an even number.

14 A box contains 10 cards numbered by the even numbers from (2 to 20). If one of the cards is selected randomly, **calculate the probability of:**

a) The event A : the appearance of multiples of number 1.

b) The event B : the appearance of an even number.

c) The event C : the appearance of a number that is divisible by 3.

15 In an experiment of tossing a regular dice once and observing the number of dots on the upper face, **find the probability of:**

a) The event A, where A is the event of the appearance of a number less than 5.

b) The event B, where B is the event of the appearance of a number which satisfies the inequality B ≥ 3.

16 In one of the "weight loss" centres, 10 ladies suffering from overweight were waiting to enter for meeting the specialised doctor. If the weights of 4 of them are between 100 and 110 kg and the weights of the others are between 110 and 120 kg, **find the following probabilities;**

a) The entrance of a lady whose weight is less than 110 kg.

b) The entrance of a lady whose weight is more than 110 kg.

c) The entrance of a lady whose weight is 90 kg.

17 A box contains some cards numbered from 10 to 19. If one of the cards is selected randomly, **calculate:**

a) The probability of getting a prime number. 11, 13, 17, 19 $\frac{4}{9}$

b) The probability of getting an even number. $\frac{5}{9}$

c) The probability of getting a number divisible by 5 $\frac{2}{9}$

هذا العمل خاص بموقع ذاكرولى التعليمى ولا يسمح بتداوله على مواقع أخرى

Gem كتاب   موقع ذاكرولى التعليمي   الصف السادس الابتدائى

Answers of Model Tests from the School Book

Model Test 1

1. 1) 0   2) (−3 , 0)   3) ⊂   4) 0

2. 1) ∈   2) −4   3) 6   4) $\frac{8}{16} = \frac{1}{2}$

3. a) −17   b) $x \in \{5, 6, 7, ...\}$

4. a) Area of one face = $10 \times 7 = 70$ cm²

   The lateral surface = $70 \times 4 = 280$ cm²

   b) The circumference = $2 \pi r = 88$

   $\therefore 2 \times \frac{22}{7} \times r = 88 \Rightarrow r = 88 \times \frac{7}{44} = 14$ cm

   The area of the circle = $(14)^2 \times \frac{22}{7} = 616$ cm²

5. a) $3x + 9 = 3 \Rightarrow 3x = 3 - 9 = -6 \quad \therefore x = -2$

   b) Left to the student.

Model Test 2

1. 1) Z⁻   2) 2 r   3) $\frac{1}{6}$ 4) −1

2. 1) $\frac{2^8}{2^2} = 2^6$ 2) ⊂   3) 5   4) $\frac{1}{3}$

3. 1) −32   2) {5 , 6 , 7 , 8 , ...}

4. a) $2x + 9 = 5 \qquad 2x = 5 - 9$

   $x = -2 \qquad$ Solution set = {−2}

   b) Area of the rectangle ABCD = L × W = 8 × 7

       = 56 cm²

   Area of the circle = $\pi r^2 = \frac{22}{7} \times \left(\frac{7}{2}\right)^2 = 38.5$ cm²

   Area of the shaded part = 56 − 38.5 = 17.5 cm²

5. Left to the student.

Model 3

1. 1) 3   2) zero   3) 1   4) 40

2. 1) 27   2) r^2 3) N   4) $\frac{1}{2}$

3. 1) ✓   2) ✗   3) ✗   4) ✓

4. 1) 360°   2) ∈   3) {0 , 1 , 2}   4) (4,4)

---

5. a) The total area = $6 \times 4 \times 4 = 96$ cm²

   The lateral area = $4 \times 4 \times 4 = 64$ cm²

   b) $\frac{2^3 \times 2^4}{2^5} = \frac{2^{3+4}}{2^5} = \frac{2^7}{2^5} = 2^{7-5} = 2^2 = 4$

Answers of some School Examinations

① Cairo – El-Sahel Educational Zone

1. 1) ∅   2) −(3)²   3) second   4) $\frac{1}{8}$

   5) −24   6) 4   7) 25   8) 1

   9) (−2 , −7)   10) 2^5 11) 0 2   12) {4}

2. 13) 54 cm²   14) Z⁻ ∪ {0}

   15) (−1 , 2)   16) 18

   17) 360   18) 50   19) $x < -3$ 20) 10

3. 21) $3x - 7 = 11$, $x \in Z$

   $3x = 11 + 7 = 18$

   $\frac{3x}{3} = \frac{18}{3} \Rightarrow x = 6$

   S.S. = {6}

22) The area of a circle = πr^2

   $= \frac{22}{7} \times 7 \times 7 = 154$ cm²

   The area of each sector = 154 ÷ 7 = 22 cm²

23) $x - 2 \leq 3$ where $x \in N$

   $x \leq 3 + 2 \Rightarrow x \leq 5$

   S.S. = {5 , 4 , 3 , 2 , 1 , 0}

24) The side length of the cube = 28 ÷ 4 = 7 cm.

   a) L.S.A. = perimeter of base × height

       = 28 × 7 = 196 cm²

   b) T.S.A. = 6 × 7 × 7 = 294 cm²

25) The measure of the angle which represents

   arts = $\frac{25}{100} \times 360° = 90°$

   The measure of the angle which represents

   sports = $\frac{40}{100} \times 360° = 144°$

   The measure of the angle which represents

   computer = $\frac{35}{100} \times 360° = 126°$

(35)
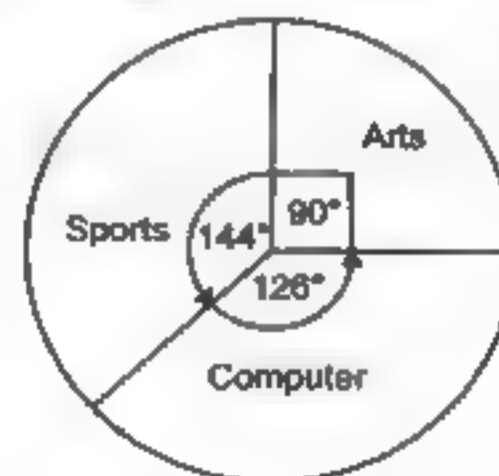
(2) Cairo - Helioplis Directorate - St. Joseph's School

1. 1) N   2) 3^2 3) $(-3, 0)$ 4) $120°$
5) -1 6) $>$ 7) $\frac{1}{6}$ 8) -1
9) 400   10) $(-1)^7$ 11) $\in$ 12) $2\pi r$

2. 13) height 14) -1 15) zero
16) 3   17) 6   18) commutative
19) $\{-1, 0, 1\}$ 20) $(-3, 0)$

3. 21) $2x + 11 = 3 \longrightarrow 2x = 3 - 11$
Then $\frac{2x}{2} = \frac{-8}{2}$ so $x = -4$
The S.S. = $\{-4\}$

22) $37 \times 17 + 37 \times (-17)$
$= 37 \times [17 + (-17)] = 37 \times 0 = 0$

23) Area of carpet $= \pi r^2 = \frac{22}{7} \times (3.5)^2 = 38.5 \text{ m}^2$
The price of the carpet $= 38.5 \times 100$
$= 3850$ pounds

24) The total area of the cuboid
$=$ lateral area + area of two bases
$= (3 + 2) \times 2 \times 6 + 2 \times 3 \times 2$
$= 60 + 12 = 72 \text{ cm}^2$

25) The measure of the angle of the sector that represents sports $= \frac{25}{100} \times 360° = 90°$
The measure of the angle of the sector that represents reading $= \frac{35}{100} \times 360° = 126°$
The measure of the angle of the sector that represents music $= \frac{40}{100} \times 360° = 144°$

(3) Cairo - Rod El-Farag Educational Zone

1. 1) $\notin$ 2) 5   3) 16   4) 9
5) zero   6) -3 7) 54   8) zero
9) 4   10) 9^2 11) third   12) $90°$

2. 13) $(0, 1)$ 14) $\emptyset$ 15) $\frac{1}{6}$ 16) height
17) $(-2)^2$ 18) 64 19) -8 20) 6

3. 21) $32 \times (117 - 17) = 32 \times 100 = 3200$

22) $2x - 2 \geq 4$ $2x \geq 4 + 2$
$2x \geq 6$ then $x \geq \frac{6}{2}$
$x \geq 3$
then the S.S. = $\{3, 4, 5, \ldots\ldots\ldots\}$

23) The lateral area = perimeter of base $\times$ height
$= 10 \times 4 \times 6 = 240$ cm.
the total area = 2 area of base + area lateral area
$2 \times 10 \times 10 + 240 = 440 \text{ cm}^2$

24)
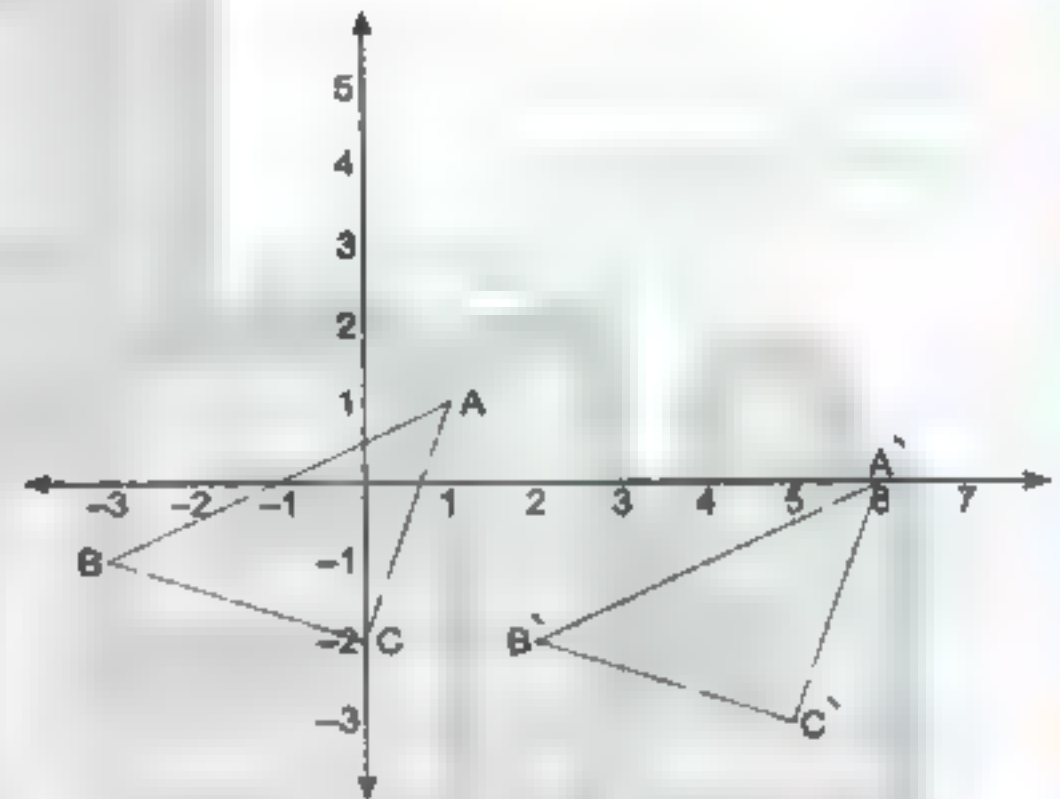
25) $1^{st} = \frac{40}{100} \times 360 = 144°$ $2^{nd} = \frac{25}{100} \times 360 = 90°$
$3^{rd} = \frac{20}{100} \times 360 = 72°$ $4^{th} = \frac{15}{100} \times 360 = 54°$
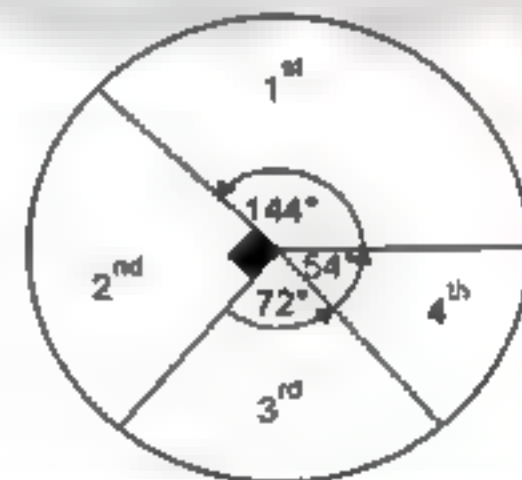
(4) Cairo - El Zeitoun Directorate - Special Republic School

1. 1) $<$ 2) $\notin$ 3) 0   4) 1
5) $\{-2\}$ 6) -3 7) $\in$ 8) $(6, -3)$
9) 25   10) L. area $= 10 \times 4 = 40$
11) 0.3   12) 0

36

2. 13) {0} **14)** Z^+ **15)** 14 cm **16)** $2^4 = 16$

17) 10 cm **18)** 5 **19)** 1 **20)** 54 cm²

3. 21) $3 \times [(-2) + 5] = 3 \times 3 = 9$

22) $3x = -15$

$x = -5$ S.S. = Ø

23) Lateral area = base P × h = (12 × 4) × 12 = 576 cm²

T.S. area = 576 + (2 × 12 × 12) = 864 cm²

24) Shaded part = area of square – area of circle

= (14 × 14) – ($\frac{22}{7}$ × 7 × 7)

196 – 154 = 42 cm²

25) Cultural activities = $\frac{25}{100} \times 360 = 90°$

Sport = $\frac{50}{100} \times 360 = 180°$

Social activities = $\frac{15}{100} \times 360 = 54°$

Arts = $\frac{10}{100} \times 360 = 36°$

---

25) Football = $\frac{50}{100} \times 360 = 180°$

Handball = $\frac{30}{100} \times 360 = 108°$

Basketball = $\frac{20}{100} \times 360 = 72°$
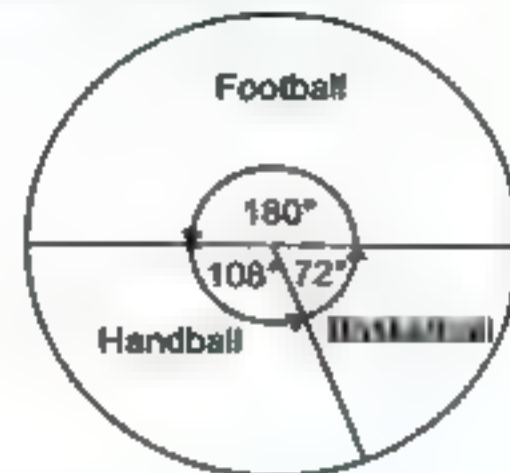
26)
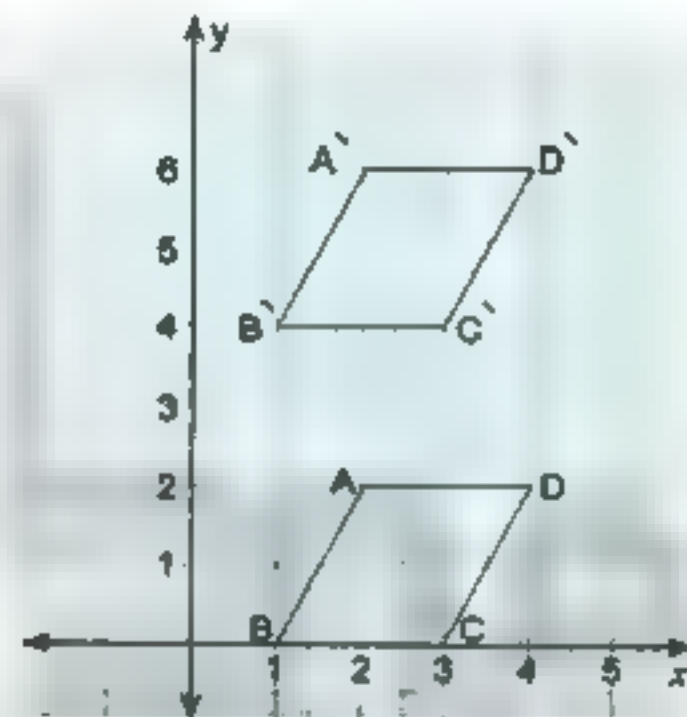
The figure A`B`C`D` is the image of ABCD
ABCD is a parallelogram.

---

5 — Cairo – El-Marg Educational Directorate – El-Shams Language School

1. 1) 0.5 **2)** 54 **3)** Ø **4)** 30°

5) 1 **6)** $\frac{1}{2}$ **7)** 6 **8)** 1

9) ∈ **10)** (–3 , 5) **11)** 314 **12)** 20

13) 5^2 **14)** ⊂

---

2. 15) commutative **16)** 0 **17)** 5

18) 256 **19)** second **20)** –2 **21)** 1

22) $\frac{2}{7}$

---

3. 23) a) {–5}

b) $3x \leq 9$

$x \leq 3$ {3 , 2 , 1 , 0 , –1, ...}

24) Lateral area = base perimeter × height

= 20 × 8 = 160 cm²

Total S. area = 2 × base area + L. area

= (24 × 2) + 160

= 208 cm²

---

6 — Giza – 6 October Directorate

1. 1) –1 **2)** ∉ **3)** 2 **4)** (–3 , 0)

5) Z **6)** 216 **7)** $\frac{1}{6}$ **8)** 314

9) 3 **10)** 14 **11)** 10 **12)** 180°

---

2. 13) zero **14)** Ø **15)** 3200 **16)** 96

17) the centre **18)** {3 , 2 , 1 , 0}

19) {–3} **20)** 2(L + w) × h

---

3. 21) a) $(-5) \times [2] = -10$ **b)** $7^{4+5-7} = 7^2 = 49$

22) $2x - 3 < 1$ $x \in N$

$2x < 1 + 3$ $\frac{2x}{2} < \frac{4}{2} \Longrightarrow x < 2$

S.S. = {0 , 1}
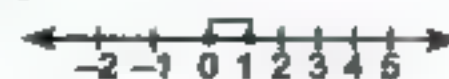
23) $x + 4 > 5$ $x \in Z$

$x > 5 - 4 \Longrightarrow x > 1$ S.S. = {2 , 3 , ...}

24) a) The length of $\overline{BC}$ = 3 units length.

37

b) The image of △ ABC by translation (0 , 2) is △ A`B`C`

3. 21) $7^{5+1-4} = 7^2 = 49$

22)

23) The area of the figure $= \frac{1}{2} \times \frac{22}{7} \times (7)^2 = 77$ cm²

24) $2x + 9 = 13$

a) $2x = 13 - 9$
$\frac{2x}{2} = \frac{4}{2}$ then $x = 2$ The S.S. = {2}

b) $x - 1 < 2$ $x < 2 + 1$
then $x < 3$ S.S. in N = {2 , 1 , 0}

25) The measure of the angle of the sector which represents washing machine $= \frac{25}{100} \times 360° = 90°$

The measure of the angle which represents the heater $= \frac{25}{100} \times 360° = 90°$

The measure of the angle which represents the oven $= \frac{20}{100} \times 360° = 72°$

The measure of the angle which represents the mixer $= \frac{30}{100} \times 360° = 108°$

25) The measure of the angle which represents culture $= \frac{10}{100} \times 360° = 36°$

The measure of the angle which represents sport $= \frac{40}{100} \times 360° = 144°$

The measure of the angle which represents social $= \frac{15}{100} \times 360° = 54°$

The measure of the angle which represents art $= \frac{35}{100} \times 360° = 126°$

7 Giza - Al-Haram Educational Area Sorour Language School

1. 1) ∅ 2) –1 3) –2 4) 3rd
5) –4 6) (0 , 0) 7) 1 8) zero
9) ½ 10) 6 11) 120° 12) 54

2. 13) 18 14) 7 15) 6
16) L.S.A. = (3 + 4) × 2 × 5 = 70 17) 7
18) zero 19) 14 20) 4

8 Giza - Orman Private School - Maths Supervision

1. 1) Z 2) > 3) The side length
4) 314 5) –2 6) 10 7) zero
8) –1 9) (–3 , 0) 10) 0 11) 3

(38)

12) third **13)** 3.6 **14)** $\frac{1}{3}$

2. 15) $2 \times (L + W)$ **16)** $\varnothing$ **17)** 1

18) zero **19)** 4 **20)** second

3. 21) $(-2)^{7+3-9} = (-2)^3 = -8$

22) $2x - 3 = -9$

$2x = -9 + 3$ $\frac{2x}{2} = \frac{-6}{2}$ then $x = -3$

23) $2x - 1 \leq 5$ s.s. $= \{-3\}$

$2x \leq 5 + 1$, then $\frac{2x}{2} \leq \frac{6}{2} \longrightarrow x \leq 3$

The S.S. $= \{3, 2, 1, 0\}$

24) The circumference $= 2\pi r = 88$

Then $\frac{2 \times 22}{7} r = 88$

$r = \frac{88 \times 7}{2 \times 22} = 14$ cm

The area of the circle $= \pi r^2 = \frac{22}{7} \times (14)^2 = 616$ cm^2

25) The area of two bases $= 132 - 112 = 20$ cm^2

Then the area of base $= \frac{20}{2} = 10$ cm^2

26) The angle of sector of the first

$= \frac{15}{100} \times 360° = 54°$

The measure of the angle of sector of the second

$= \frac{30}{100} \times 360° = 108°$

The measure of the angle of sector of the third

$= \frac{20}{100} \times 360° = 72°$

The measure of the angle of the fourth

$= \frac{35}{100} \times 360° = 126°$
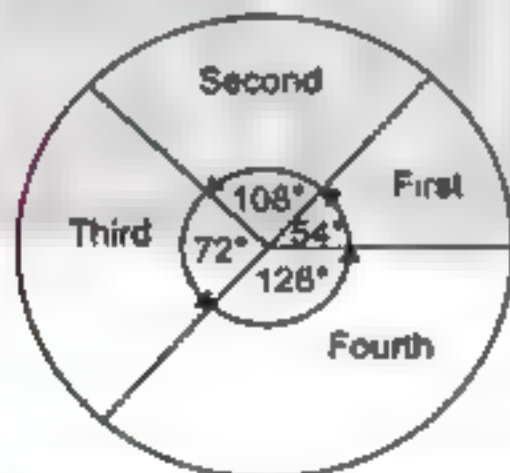
9 Alexandria - Educational Zone - Mathematics Inspection

1. 1) $x = 8$ **2)** $\frac{5}{6}$ **3)** 3000 **4)** 5

5) $\{-3\}$ **6)** $\frac{r^2}{2}$ **7)** 3 **8)** $(5, -1)$

2. 9) $(-3)3$ **10)** 12 or (-12) **11)** $\{2\}$

12) $3 : 2$ **13)** $\in$ **14)** $\mathbb{Z}$ **15)** 0.77

16) $-$ **17)** zero **18)** 154 cm^2 **19)** -20

20) 5

---

3. 21) S.S. $= \{2, 3, 1, 0, -1, \dots\dots\}$
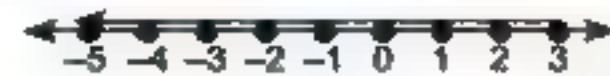
22) $-(a + b)^c = -(-2 - 3)^0 = -(-5)^0 = -1$

23) The area of one face $= 468 + 6 = 78$ cm^2
The L.S.A. $= 4 \times 78 = 312$ cm^2

24) $A' = (4, -1)$, $B' = (2, -4)$
$\overline{A'B'}$ is the image of $\overline{AB}$
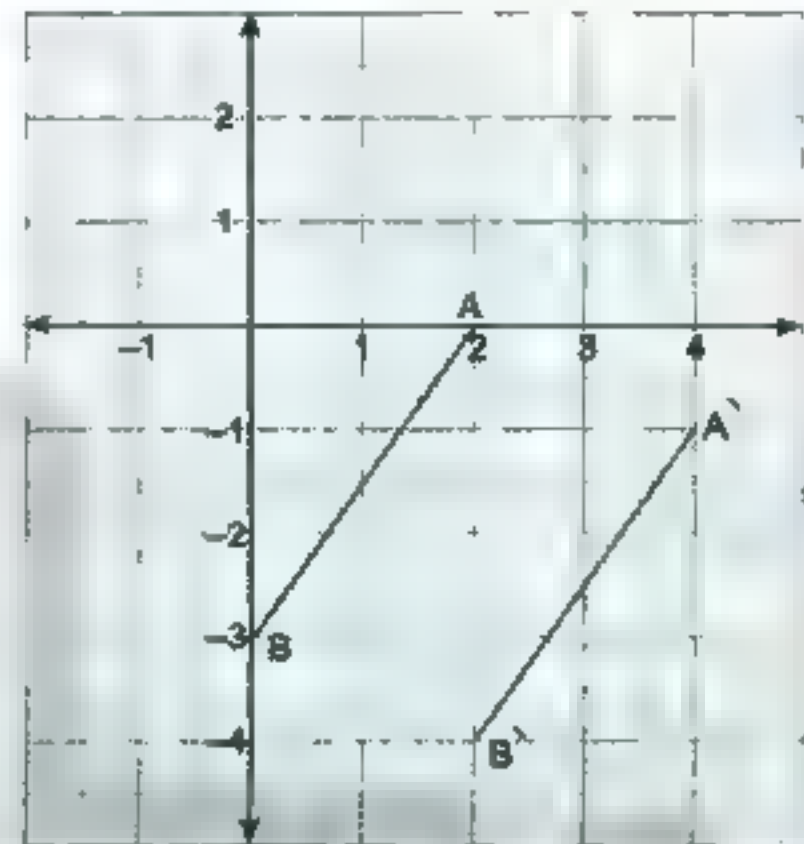
25)

Farm	First	Second	Third
Percentage	25%	45%	30%

The measure of the angle that represents the first $= \frac{25}{100} \times 360° = 90°$
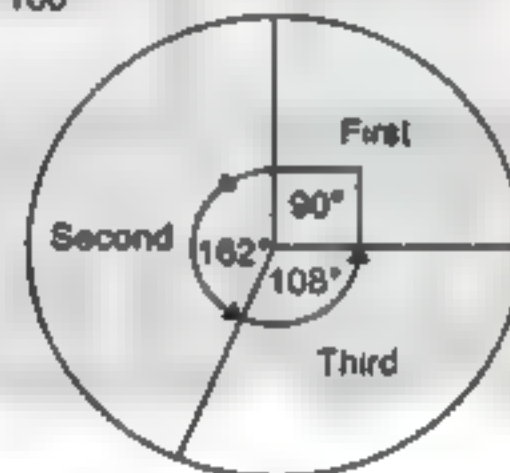
The measure of the angle that represents the second $= \frac{45}{100} \times 360° = 162°$

The measure of the angle that represents the third $= \frac{30}{100} \times 360° = 108°$

10 Alexandria - El Montazah Educational Zone - Maths Supervision

1. 1) zero **2)** $\{1, -3\}$ **3)** $\in$ **4)** $x \leq 2$

5) $\frac{1}{6}$ **6)** 49π cm^2 **7)** zero **8)** -1

9) $\varnothing$ **10)** second **11)** 90° **12)** $<$

2. 13) $2r$ **14)** 6 **15)** 4 **16)** 15

17) 400 **18)** $\frac{1}{2}$ **19)** $\{0\}$ **20)** $(-1, 2)$

39

3. 21) $2x - 1 = -3$

$2x = -3 + 1 = -2$

$\frac{2x}{2} = \frac{-2}{2} \longrightarrow x = -1$

S.S. $\{-1\}$

22) The area of one face $= 36 + 4 = 9 \text{ cm}^2$

The T.S.A. $= 9 \times 6 = 54 \text{ cm}^2$

23) $4 \times (-33) \times 25$

$= (4 \times 25) \times (-33)$ commutative and associative

$= 100 \times (-33) = -3300$ closure

24) a) $D` = (5, 2)$, $E` = (2, 3)$

The image of $\overline{DE}$ is $\overline{D`E`}$
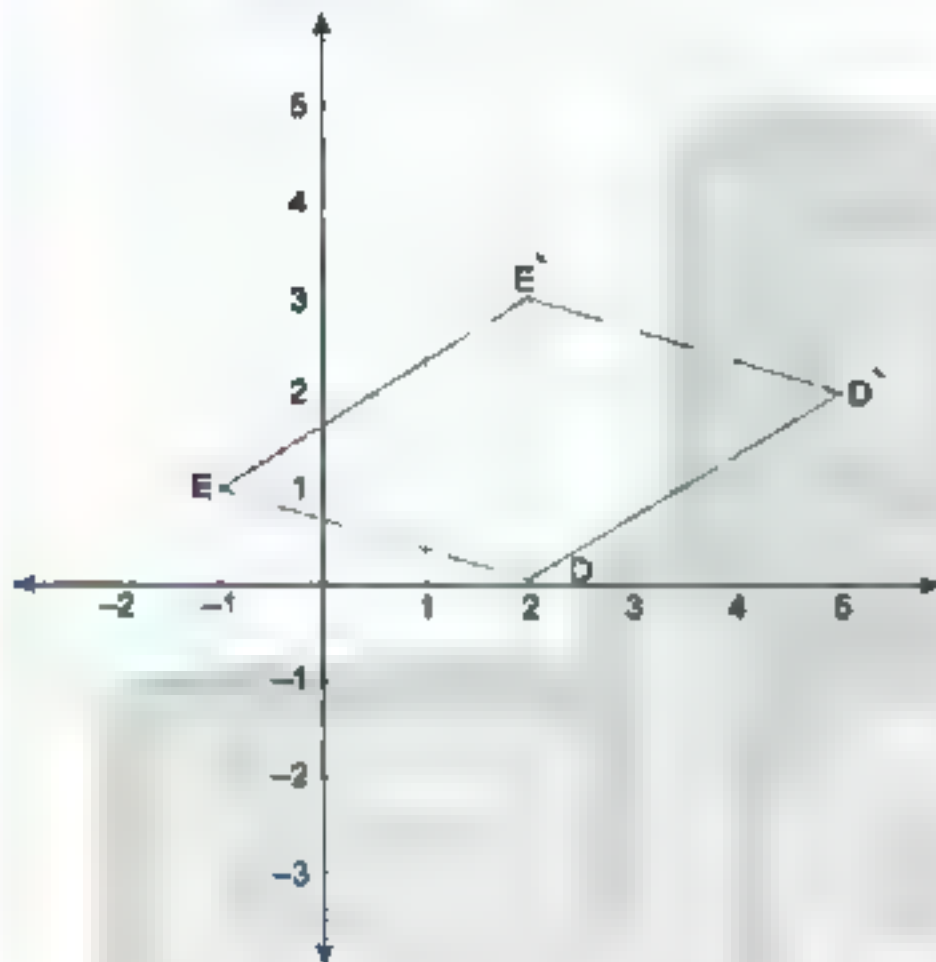
b) The name of the shape DD`EE` is

a parallelogram

25) The measure of the angle which represents

sports $= \frac{45}{100} \times 360° = 162°$

The measure of the angle which represents

arts $= \frac{25}{100} \times 360° = 90°$

The measure of the angle which represents

culture $= \frac{30}{100} \times 360° = 108°$
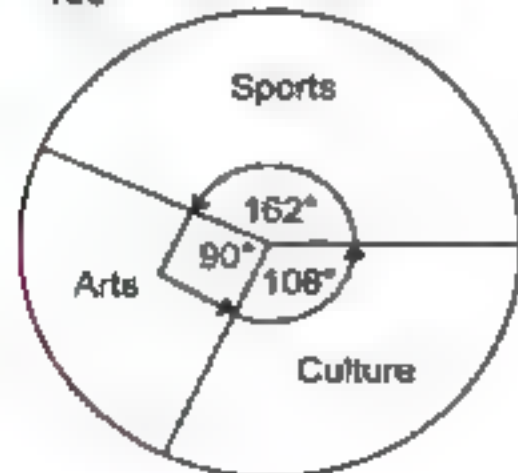
⑪ Alexandria - East Educational Directorate - Maths Inspectorate

1. 1) Z^-　　**2)** $\subset$　　**3)** -3　　**4)** $=$

5) $<$　　**6)** 5　　**7)** -1　　**8)** 144

9) $(-2, -7)$　**10)** 4　　**11)** $360°$　**12)** zero

2. 13) 12　　**14)** 7　　**15)** $\{2, 1, 0\}$

16) $\{3, 5\}$　**17)** 6　　**18)** 150　　**19)** 40

20) $\frac{1}{8}$

3. 21) The order is: $-15, -9, |-9|, 16, 17$

22) $(-5)^{3+2-4} = (-5)^1 = -5$

23) The area of the circle $= \pi r^2$

$= \overset{11}{\frac{22}{7}} \times \frac{7}{2} \times \frac{7}{2} = 38.5 \text{ cm}^2$

⑫ Menofia - El-Sadat Directorate - Mathematics Supervision

1. 1) $x = 9$　**2)** $(5, -5)$　**3)** $>$　　**4)** 0.5

5) N　　**6)** $2 : 3$　**7)** 10　　**8)** $\not\subset$

9) 1　　**10)** $90°$　　**11)** 4　　**12)** -2

2. 13) 3　　**14)** 6　　**15)** Second

16) zero　**17)** $180°$　**18)** $\{3, 2, 1, 0\}$

19) -25　**20)** $\varnothing$

3. 21) $2^4 \times (-2)^{7-6-2}$

$2^4 \times (-2)^0 = 2^4 \times 1 = 16$

22) L.S.A. $=$ perimeter of base $\times$ h

$= 2(16 + 7) \times 9$

$= 46 \times 9 = 414 \text{ cm}^2$

T.S.A. $=$ L.S.A. $+$ area of one base

$= 414 + (16 \times 7)$

$414 + 112 = 526 \text{ cm}^2$

23) Area of the shaded part

$=$ area of circle $-$ area of square

$= \pi r^2 - \frac{d^2}{2} = \frac{22}{7}(7)^2 - \frac{(14)^2}{2} = 154 - 98 = 56 \text{ cm}^2$

24) a) $x + 8 = 19$

$x = 19 - 8 = 11$　　S.S. $= \{11\}$

b) $1 - 2x > 5$　　$-2x > 5 - 1$

$\frac{-2x}{-2} > \frac{4}{-2}$

$x < -2$

S.S. $= \{-3, -4, \ldots\}$.

(40)

25) The measure of the angle which represents

sports $= \frac{40}{100} \times 360 = 144°$

The measure of the angle which represents

social activities $= \frac{35}{100} \times 360° = 126°$

The measure of the angle which represents

arts $= \frac{25}{100} \times 360° = 90°$

24) 1) The probability of getting a number greater

than 6 = zero

2) the probability of getting a prime number

$= \frac{1}{2}$

25) The measure of the angle which represents the 1st

$= \frac{10}{100} \times 360° = 36°$

The measure of the angle which represents the 2nd

$= \frac{35}{100} \times 360° = 126°$

The measure of the angle which represents the 3rd

$= \frac{30}{100} \times 360° = 108°$

The measure of the angle which represents the 4th

$= \frac{25}{100} \times 360° = 90°$

The drawing is left to the student.

---

(13) Gharbia - Educational Zone - Maths Inspectorate

1. 1) Z **2)** third(3rd)   **3)** $(-5, -1)$ **4)** $x + 1$

5) 2   **6)** 16π **7)** $\varnothing$ **8)** $\frac{3}{20}$

9) $|-5|$ **10)** 0.3   **11)** $\frac{1}{6}$ **12)** Z^*

2. 13) 4 × the area of one face

14) 12   **15)** (1 , 0)   **16)** 314   **17)** -4

18) 160   **19)** 5   **20)** 16

3. 21) $8^{3+5-8} = 8^0 = 1$

22) The area of the shaded part

$= 8 \times 7 - \frac{22}{7} \times \frac{7}{2} \times \frac{7}{2} = 56 - 38.5 = 17.5 \ cm^2$

23)

(14) Kafr El-Sheikh - Mathematics Supervision

1. 1) 0   **2)** 0.5   **3)** $x > 7 - 5$

4) -45 **5)** (2 , 2)   **6)** -1 **7)** 484

8) -4 **9)** 1   **10)** $\subset$ **11)** third

12) 6

2. 13) zero   **14)** r^2 **15)** 216

16) -2 **17)** $\frac{8}{20} = \frac{2}{5}$ **18)** (5 , -6)

19) 20   **20)** height

3. 21) $63 \times (85 + 15) = 63 \times 100 = 6300$

22) $3x + 2 \le 11$ $x \in Z$

$3x \le 11 - 2$ $\frac{3x}{3} \le \frac{9}{3} \longrightarrow x \le 3$

S.S. = {3 , 2 , 1 , 0 , -1 , -2 , ...}

23) L.S.A. $= 4 \times 9 \times 20 = 720 \ cm^2$

T.S.A. $= 720 + 2 \times 9 \times 9 = 720 + 162 = 882 \ cm^2$

24) The measure of the angle that represents the

rent of the house $= \frac{25}{100} \times 360° = 90°$

The measure of the angle that represents

food $= \frac{50}{100} \times 360° = 180°$

The measure of the angle that represents

savings $= \frac{25}{100} \times 360° = 90°$

25) The area of the circle = πr^2

     = $3.14 \times 6 \times 6 \approx 113.04\ cm^2$

---

(15) Damietta - Directorate of Official Language Schools

1. 1) N   **2)** third   **3)** 16   **4)** (−2 , 3)

5) $\frac{1}{2}$ **6)** zero   **7)** − 4   **8)** 256

9) 120   **10)** Z^- **11)** 1   **12)** {2}

2. 13) $\frac{(-2)^{7+5}}{2^{10}} = \frac{(-2)^{12}}{2^{10}} = 2^{12-10} = 2^2 = 4$

14) 10   **15)** 6   **16)** 8   **17)** $\frac{8}{16} = \frac{1}{2}$

18) 1   **19)** (−1 , 5)   **20)** πr^2

3. 21) $3x - 2 \geq 4$

     $3x \geq 6 \rightarrow x \geq 2$

     S.S. = {2 , 3 , 4 , ...}

22) 115 + 390 + (−115) = [115 + (−115)] + 390

     Commutative and associative property

     = 0 + 390 additive inverse = 390 closure

23) The total area of cube = 12 × 12 × 6 = 864 cm²

24) The area of the circle

     = $\pi r^2 = \frac{22}{7} \times 7 \times 7 = 154\ cm^2$

25) The measure of the angle which represents

     excellent = $\frac{15}{100} \times 360° = 54°$

     The measure of the angle which represents

     good = $\frac{50}{100} \times 360° = 180°$

     The measure of the angle which represents

     pass = $\frac{25}{100} \times 360° = 90°$

     The measure of the angle which represents

     weak = $\frac{10}{100} \times 360° = 36°$

---

(16) Sharkia - Directorate of Education - Mathematics Department

1. 1) zero   **2)** 3   **3)** −3   **4)** $\frac{1}{6}$

5) 3^3 **6)** {−2}   **7)** {−5 , −1}   **8)** ∅

9) 360°   **10)** −1   **11)** −6   **12)** 54

(42)

---

2. 13) (−5) × [7 + (−5)] = (−5) × 2 = −10

14) Second degree   **15)** 16   **16)** 2

17) −1   **18)** −1   **19)** zero   **20)** m − n

3. 21) $\frac{2^5 \times (-2)^3}{(-2) \times 2^4} = 2^{5-4} \times (-2)^{3-1} = 2 \times (-2)^2$

     = 2 × 4 = 8

22) 1) The lateral area of the cuboid

     = 2 (6 + 4) × 8 = 2 × 10 × 8 = 160 cm²

2) The total surface area

     = L.S.A. + area of two bases

     = 160 + 2 × 6 × 4 = 160 + 48 = 208 cm²

23) a) $x + 3 < 5$, $x \in Z$

     $x < 5 - 3$ $x < 2$

     Then the S.S. = {1 , 0 , −1 , −2, ...}

b) $2x + 1 = -9$, $x \in Z$

     $2x = -9 - 1$ $\frac{2x}{2} = \frac{-10}{2}$

     $x = -5$ The S.S. = {−5}

24) 1) The surface area of the circle M = πr^2

     = $\frac{22}{7} \times 14 \times 14 = 616\ cm^2$

2) The area of one circular sector

     = 616 ÷ 8 = 77 cm²

25) The measure of the angle which represents

     TV = $\frac{35}{100} \times 360° = 126°$

     The measure of the angle which represents

     the washing machine = $\frac{25}{100} \times 360° = 90°$

     The measure of the angle which represents

     the refrigerator = $\frac{15}{100} \times 360° = 54°$

     The measure of the angle which represents

     the cooker = $\frac{25}{100} \times 360° = 90°$

---
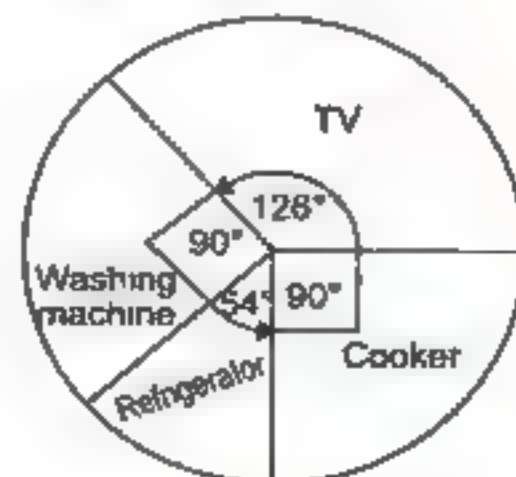
(17) Port Said - Educational Directorate - Mathematics Inspectorate

1. 1) 2r   2) Z^- 3) 6   4) zero
   5) $\in$ 6) 2^7 7) zero   8) 3
   9) 6   10) zero   11) (3 , 5)   12) – 4

2. 13) 6   14) 40 cm²   15) 1   16) 360°
   17) r^2 18) 5   19) N   20) 3

3. 21) $(4 \times 3^2 \times 3^2) - 7 \times 3 = 4 \times 81 - 21$
   $$= 324 - 21 = 303$$

22)
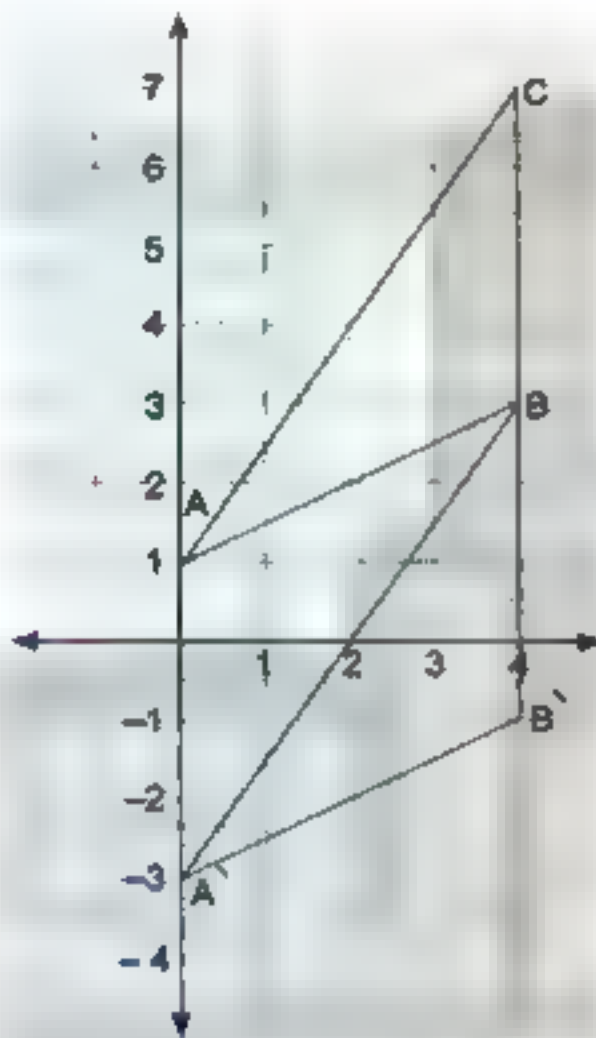
1) 4
2) A` = (0 , –3), B` = (4 , –1)
   C` = (4 , 3)
   ΔA`B`B is the image of Δ ABC

23) $x - 2 \geq 3 \longrightarrow x \geq 5$
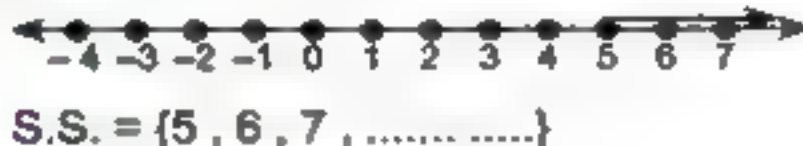
S.S. = {5 , 6 , 7 , ...}

24) L.S.A. of the cuboid
   = perimeter of base × height
   = 10 × 4 × 7 = 280 cm²

25) The measure of the angle which
   represents the washing machine = $\frac{30}{100} \times$
   360° = 108°
   The measure of the angle which
   represents the heater = $\frac{15}{100} \times 360° = 54°$

The measure of the angle which
represents
the oven = $\frac{40}{100} \times 360° = 144°$
The measure of the angle which
represents
the mixer = $\frac{15}{100} \times 360° = 54°$

(18) Ismailia - Directorate of Education

1. 1) Z^- 2) 1   3) (5 , 4)   4) 360°
   5) –6   6) second   7) 100   8) 5
   9) 2   10) – 4   11) 9 π   12) 5

2. 13) –1   14) $\frac{1}{2}$ 15) 2 : 3
   16) 864   17) 6   18) 1   19) 280
   20) 616

3. 21) a) $7^{5+3-6} = 7^2 = 49$

   b) 116 + 190 + (–116) = [116 + (–116)] + 190
   commutative and associative property
   = zero + 190 (additive identity) = 190 closure

22) 2x + 1 = –13   2x = –13 – 1
   2x = –14 $x = \frac{-14}{2} = -7$
   The S.S. = {–7}

23) L.S.A. = perimeter of base × height
   = 2 × (6 + 4) × 8 = 160 cm²
   The T.S.A. = L.S.A. + area of 2 bases
   = 160 + 2 (6 × 4) = 160 + 48 = 208 cm²

24) S = {1 , 2 , 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10}
   1) The probability that the drawn ball has
   an odd number = $\frac{5}{10} = \frac{1}{2}$

   2) The probability that the drawn ball has
   a number divisible by 3 = $\frac{3}{10}$

3) The probability that the drawn ball is an even prime number = $\frac{1}{10}$

4) The probability that the drawn ball has a number more than 6 = $\frac{4}{10} = \frac{2}{5}$

---

25) A` = (0 , 5), B` = (−4 , 3) , C` = (2 , −1)

---
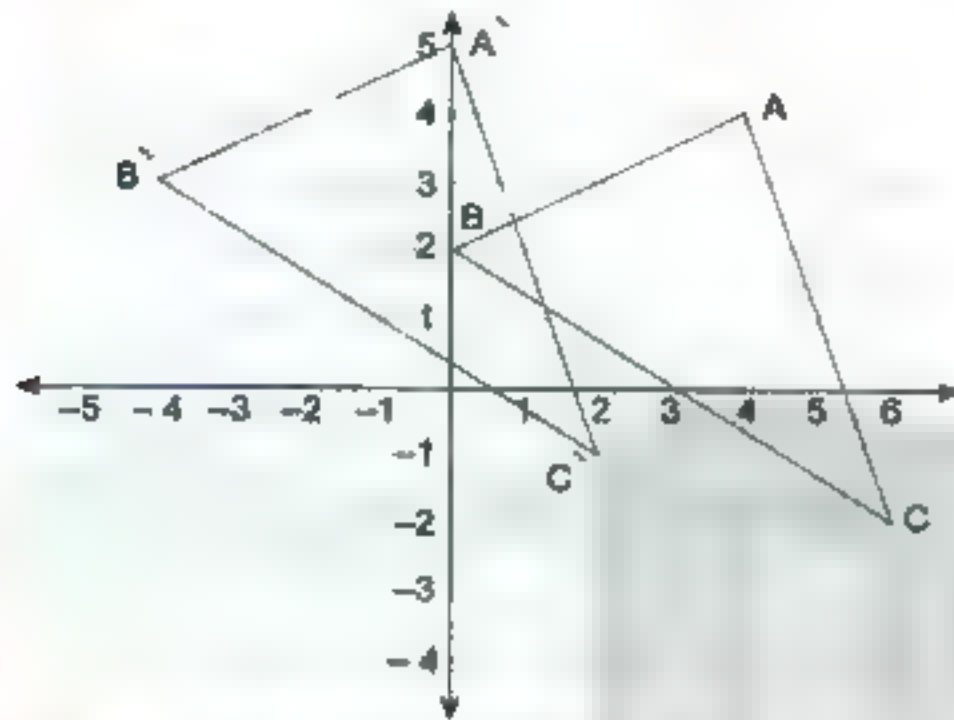
19   Suez - Maths Inspectorate

1. 1) zero   2) ⊂   3) second   4) =

5) zero   6) 360°   7) Z^- 8) =

9) 6   10) 7   11) −20

12) (−3 , 0)

---

2. 13) Z^- 14) diameter   15) 2^5

16) − 4   17) height   18) 400 cm²

19) perimeter of the rectangle   20) $\frac{8}{16} = \frac{1}{2}$

---

3. 21) (−7) + 19 + 17

$= [(−7) + 17] + 19$

    commutative and associative properties

$= 10 + 19 = 29$ closure.

22) $x − 2 \leq 3 \implies x \leq 3 + 2$

$x \leq 5$ S.S in Z = {5 , 4 , ... , −1 , −2 , ...}

23) The surface area of the circle = $\pi\, r^2$

$= \frac{22}{7} \times 7 \times 7 = 154$ cm²

24) L.S.A. = perimeter of base × height

      $= 10 \times 4 \times 7 = 280$ cm²

25) The measure of the angle which represents the washing machine = $\frac{25}{100} \times 360° = 90°$

The measure of the angle which represents

---

the heater = $\frac{15}{100} \times 360° = 54°$

The measure of the angle that represents the oven $= \frac{40}{100} \times 360° = 144°$

The measure of the angle which represents the mixer = $\frac{20}{100} \times 360° = 72°$

---

20   Fayoum - Directorate of Education - Mathematics Supervision

1. 1) Z   2) − 4   3) zero   4) 7

5) >   6) −1   7) xy 8) (1 , 0)

9) $\frac{1}{2}$ 10) $\frac{1}{4}$ 11) 2 : 3   12) 60

---

2. 13) third   14) {0}   15) ∅   16) 150

17) 7   18) $6\frac{2}{3}$ cm   19) radius of the circle

20) zero ≤ the value of the probability ≤ 1

---

3. 21) $(−5)^{5+4−7} = (−5)^2 = 25$

22) $\frac{3}{3}(x + 2) = \frac{3}{3}$ $x + 2 = 1$

   $x = 1 − 2$ then $x = −1$ the S.S. = {−1}

23) The area of the circle = $3.14 \times (10)^2 = 314$ cm²

24) L.S.A. $= (10 + 5) \times 2 \times 8 = 240$ cm²

T.S.A. = L.S.A. + area of bases

      $= 240 + 2 \times 10 \times 5 = 340$ cm²

25) The measure of the angle which represents the football = $\frac{40}{100} \times 360° = 144°$

The measure of the angle which represents basketball = $\frac{35}{100} \times 360° = 126°$

The measure of the angle which represents handball = $\frac{25}{100} \times 360° = 90°$

44
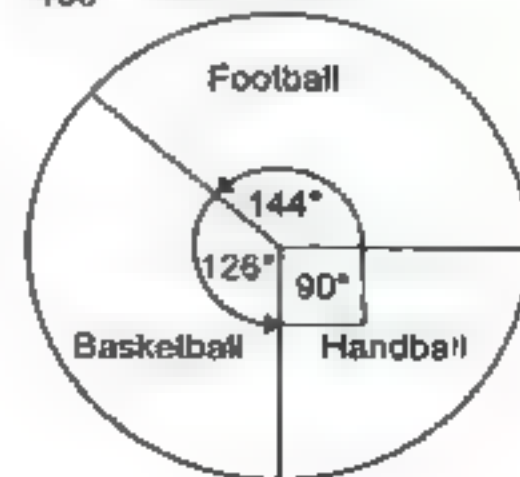
21 Assuit - Administration of Distinguished Language Schools

1. 1) $\in$ 2) 1 3) -1 4) zero

5) -2 6) $\frac{1}{3}$ 7) 2^8 8) 5

9) $x \geq 3$ 10) 154 11) 5 12) {3}

2. 13) $\varnothing$ 14) 10 15) 25 16) (5 , 4)

17) 216 18) 5 units 19) second 20) $\frac{1}{6}$

3. 21) S.S. = {2 , 1 , 0}

22) $(-116) + 190 + 116 = [(-116) + 116] + 190$

commutative and associative property

= 0 + 190 the additive neutral

= 190 closure property

23) The area of the shaded part

= area of rectangle − area of circle

$= 12 \times 7 - \left(\frac{7}{2}\right)^2 \times \frac{22}{7}$

$= 84 - 38.5 = 45.5 \text{ cm}^2$

24) The measure of the angle which represents the cultural activities $= \frac{20}{100} \times 360° = 72°$

The measure of the angle which represents sport $= \frac{40}{100} \times 360° = 144°$

The measure of the angle which represents social activities $= \frac{25}{100} \times 360° = 90°$

The measure of the angle which represents arts $= \frac{15}{100} \times 360° = 54°$

25)
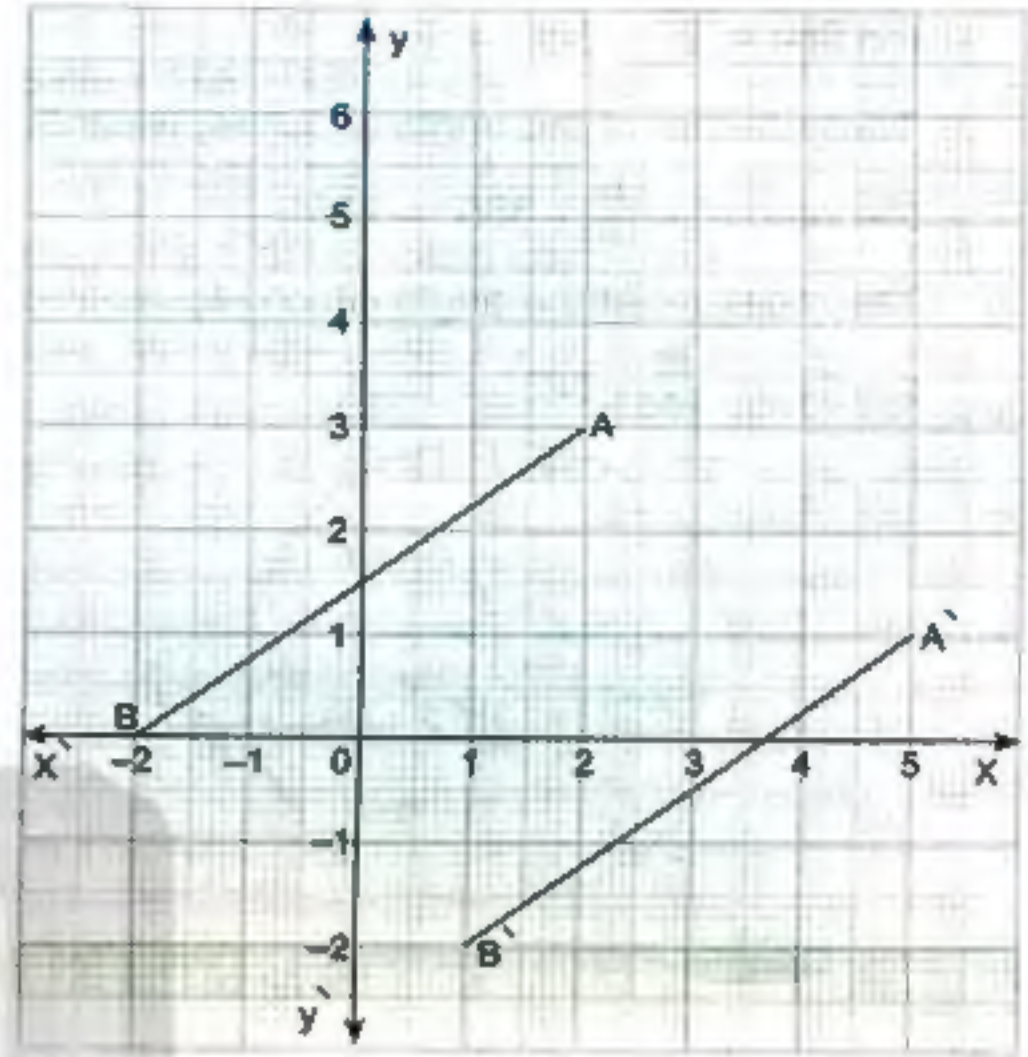
22 Qena - Qeft Educational Directorate

1. 1) $\varnothing$ 2) 30 3) 12 4) -3

5) Z^- 6) 2r 7) 6 8) 144

9) (0 , 3) 10) 360° 11) 0.5 12) $\subset$

2. 13) 5 14) 5 15) 2

16) 54 (117 − 17) = 54 × 100 = 5400

17) 154 cm² 18) 6

19) zero , 1 20) $\subset$

3. 21) $2^{5-4} \times (-2)^{3-1} = 2 \times (-2)^2 = 2 \times 4 = 8$

22) $2x + 9 \leq 1$

$2x \leq 1 - 9 \Rightarrow 2x \leq -8$

then $x \leq -4$

1) S.S. = {− 4 , −5 , −6 , ...} $x \in Z$

2) The S.S. in N = $\varnothing$

23) 1) L.S.A = 2 × (6 + 4) × 8 = 20 × 8 = 160 cm²

2) T.S.A. = 160 + 2 × 6 × 4 = 160 + 48 = 208 cm²

24) 1) The probability of drawing a white ball
$= \frac{8}{20} = \frac{2}{5}$

2) The probability of drawing red ball
$= \frac{12}{20} = \frac{3}{5}$

45

25) The measure of the angle which represents

the first = $\frac{25}{100} \times 360° = 90°$

The measure of the angle which represents

the second = $\frac{35}{100} \times 360° = 126°$

The measure of the angle which represents

the third = $\frac{40}{100} \times 360° = 144°$

---
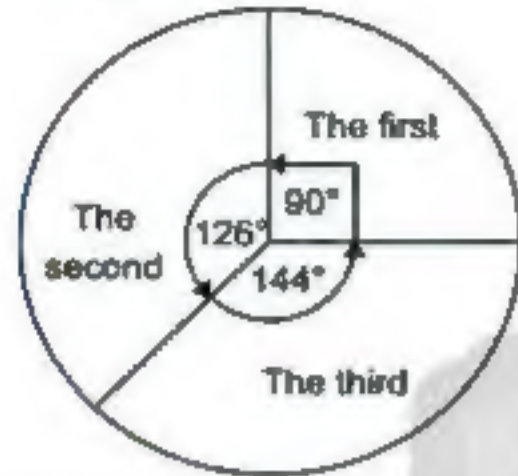
(23) Sohage - Educational Directorate City Private Schools

1. 1) $\not\subset$ 2) $\frac{1}{2}$ 3) 5   4) zero

5) 54   6) (5 , 3)   7) third   8) zero

9) Z^+ 10) 1   11) 154   12) $\frac{1}{6}$

2. 13) $\frac{1}{2}$ 14) zero   15) 36   16) 4

17) 157 cm^2

18) (−1 , −2 , −3 , − 4)

19) N   20) −1

3. 21) $3x + 1 > -5$ $3x > -6 \rightarrow x > -2$

S.S. = {−1 , 0 , 1 , 2 , ...}

22) The area of the shaded part

= area of square − area of circle

= $10 \times 10 - \frac{22}{7} \times 5 \times 5$

= $100 - 78\frac{4}{7} = 21\frac{3}{7}$ cm^2

23) L.S.A. = perimeter of base × height

= (16 + 7) × 2 × 19 = 46 × 19

= 874 cm^2

24) (−11) × [5 + (−3)] = (−11) × 5 + (−11) × (−3)

= −55 + 33 = −22

25) The measure of the angle that represents

football = $\frac{40}{100} \times 360° = 144°$

The measure of the angle that represents

volleyball = $\frac{20}{100} \times 360° = 72°$

The measure of the angle that represents

---

basketball = $\frac{10}{100} \times 360° = 36°$

The measure of the angle that represents

ping pong = $\frac{30}{100} \times 360° = 108°$

(24) Luxor - Educational Directorate - El-Salam Language School

1. 1) $\frac{1}{2}$ 2) 2   3) (5 , 4)   4) second

5) 0   6) 40   7) 3   8) 2

9) <   10) −7   11) −2   12) 360

2. 13) ∅   14) 4   15) zero   16) 3

17) height   18) 4   19) (2 , 2)   20) πr^2

3. 21) $2^{3+4-7} = 2^0 = 1$

22) $2x + 1 \geq 5$ in Z

$2x \geq 5 - 1$ $2x \geq 4 \rightarrow x \geq 2$

S.S. = {2 , 3 , 4 , ...}

23) The area of the circle = $\pi r^2 = \frac{22}{7} \times 7 \times 7 = 154$ cm^2

24) The measure of the angle which represents

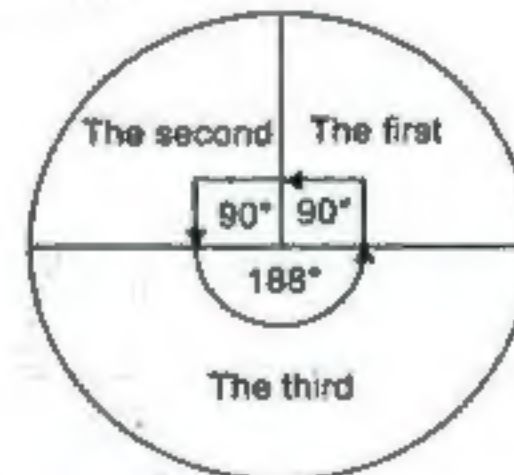the first = $\frac{25}{100} \times 360° = 90°$

The measure of the angle which represents

the second = $\frac{25}{100} \times 360° = 90°$

The measure of the angle which represents

the third = $\frac{50}{100} \times 360° = 180°$

Pre-exam Final Revision

1. 1) Z^- 2) −1   3) −1   4) −12

5) $(-3)^3$ 6) 50   7) A = {−3}   8) Z

(46)

9) $\varnothing$ 10) $\mathbb{N}$ 11) $(-5, -1)$ 12) 2

13) Zero   14) $\notin$ 15) Zero

16) 90°   17) $\mathbb{N} - \{0\}$

From 18 to 28 are left to the student.

2. 1) $2(L + w) \times h$

   2) It is an experiment in which we can determine all its possible outcomes before carrying it out, but we can't predict certainly which of these outcomes will occur.

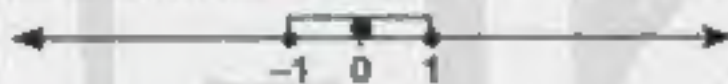   3) $9(4 + (-3)) = 9 \times 4 + 9 \times (-3) = 9$

   4) 7^3

   5) 18, each number is more than its predecessor by 4.

   6) 5 cm.   7) 6   8) Zero

   9) 78.5   10) $(1, 3)$

From 11 to 27 are left to the student.

3. $-4 < 2x \le 2$, then $-2 < x \le 1$.   S.S. = $\{-1, 0, 1\}$

4. a) $2x \ge 8 \;(\div 2)$, then $x \ge 4$ S.S. = $\{4, 5, 6, 7, ...\}$

   b) $3x = 6$ $x = 2$ S.S. = $\{2\}$

5. The area of the squared shaped cardboard
= $80 \times 80 = 6400$ cm^2

   The total area of the cuboid

   = $(L + W) \times 2 \times h + 2 \times L \times W$

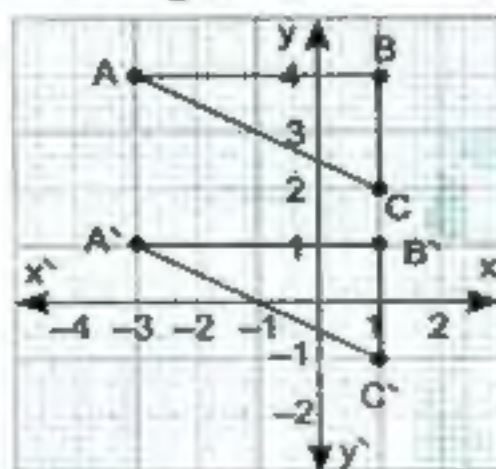   = $[(40 + 20) \times 2 \times 30] + [2 \times 40 \times 20] = 5200$ cm^2

   The piece of cardboard is enough to design the cuboid.

6. AB = 4 length units, BC = 2 length units

   $A^` = (-3, 1)$

   $B^` = (1, 1)$

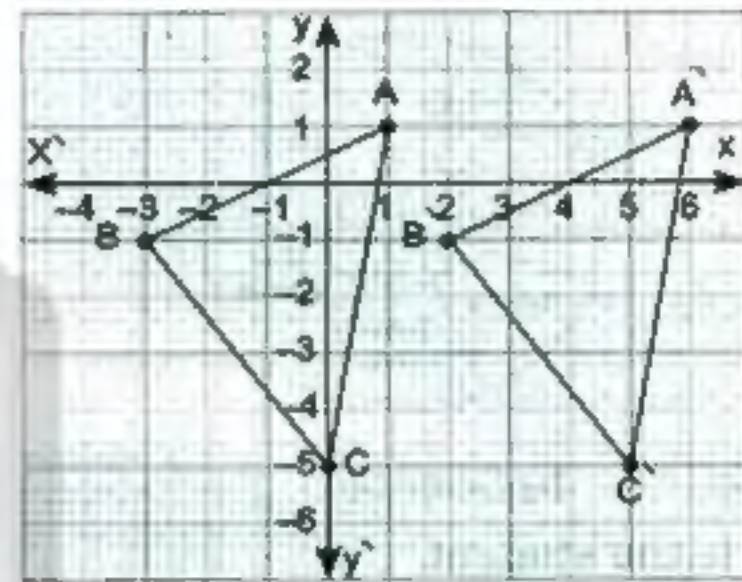 $C^` = (1, -1)$

7. Side = $108 \div 12 = 9$ cm

   L.S.A. = $9 \times 9 \times 4 = 324$ cm^2

   T.S.A. = $9 \times 9 \times 6 = 486$ cm^2

   The ratio = $324 : 486 = 2 : 3$ or $\frac{2}{3}$

8. $A^` = (6, 1)$     $B^` = (2, -1)$ $C^` = (5, -5)$

9. $r^2 = 2826 \div 3.14 = 900 \longrightarrow r = 30$ cm

   Circumference = $2\pi r = 2(3.14) \times 30 = 188.4$ cm.

10. The measure of the angle of the sector that represents the production of TV sets
$= \frac{30 \times 360}{100} = 108°$

   The measure of the angle of the sector that represents the washing machine $= \frac{25}{100} \times 360°$
$= 90°$

   The measure that represents the refrigerator
$= \frac{15 \times 360}{100} = 54°$

   and the measure of the angle which represents the cooker
$= \frac{30 \times 360}{100} = 108°$

11. The measure of the angle of the sector that represents Arabic $= \frac{9}{40} \times 360° = 81°$

   The measure of the angle of the sector that represents English $= \frac{6}{40} \times 360° = 54°$

   The measure of the angle of the sector that represents maths $= \frac{7}{40} \times 360° = 63°$

47

The measure of the angle of the sector

that represents science = $\frac{5}{40} \times 360° = 45°$

The measure of the angle of the sector

that represents social studies = $\frac{6}{40} \times 360° = 54°$

The measure of the angle of the sector

that represents other subjects = $\frac{7}{40} \times 360° = 63°$

a) Arabic   b) Science

c) Left to the student.

12. $S = \{w_1, w_2, w_3, w_4, w_5, r_1, r_2, r_3, r_4, r_5, r_6, r_7, r_8, r_9\}$

  a) $\frac{5}{14}$ b) $\frac{9}{14}$ c) Zero.

13. $S = \{12, 13, 21, 23, 31, 32\}$

  a) The probability of getting an odd prime
    number = $\frac{3}{6} = \frac{1}{2}$

  b) The probability of getting an even number
    = $\frac{2}{6} = \frac{1}{3}$

14. a) $A = \{2, 4, 6, 8, 10, 12, 14, 16, 18, 20\}$.

    $P(A) = 1$

  b) $P(B) = 1$ $P(C) = \frac{3}{10}$

15. a) $\frac{4}{6} = \frac{2}{3}$ b) $\frac{4}{6} = \frac{2}{3}$

16. a) $\frac{4}{10} = \frac{2}{5}$ b) $\frac{6}{10} = \frac{3}{5}$ c) Zero

17. a) $\frac{4}{10} = \frac{2}{5}$ b) $\frac{5}{10} = \frac{1}{2}$ c) $\frac{2}{10} = \frac{1}{5}$